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ABSTRACT

The National Science Foundation (NSF) Graduate Fellows of calendar years 1952-1972 were followed up in this study to determine their subsequent career achievements. Career achievements of these individuals are discussed in terms of the following criteria: doctorate attainment, postdoctoral fellowship awards, faculty membership, dissertation adviser status, migration from Ph.D. institution to employment, research grant awards, postdoctoral employment, and publications and citations. Data on career outcomes are presented in tabular form and occasionally interpreted in graphic displays. Where feasible, comparative data on the corresponding base population of Ph.D.'s is presented. Among the major findings were: (1) 84% of the Fellows of the 1950s had attained doctorates by 1974; (2) the mean time lapse from B.A. to Ph.D. degress for NSF Fellows was about 30% less than for the comparable Ph.D.; and (3) former NSF Fellows are much more frequent contributors to the scientific literature than the typical Ph.D.'s are. (MN)

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# Career Achievements of NSF Graduate Fellows:

## The Awardees of 1952-1972

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Commission on Human Resources

SE 024 012

# CAREER ACHIEVEMENTS OF NSF GRADUATE FELLOWS: THE AWARDEES OF 1952-1972

Lindsey R. Harmon
Project Director

A Report to the
NATIONAL SCIENCE FOUNDATION
by the
Commission on Human Resources
NATIONAL RESEARCH COUNCIL

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1977

NOTICE

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## Preface

Since 1952 the National Science Foundation has conducted a program of fellowships in the sciences, calling on the National Research Council to arrange for committees of scientists to evaluate the applicants for these fellowships. Of the several fellowship programs sponsored by the NSF, the Graduate Fellowship Program has been the largest. The Foundation in 1975 asked the NRC to examine the career outcomes of those to whom the Graduate Fellowship awards were made. The present report describes the results of this examination.

No attempt is made in this report to evaluate the fellowship program itself. The report is strictly factual in nature and concerned solely with the career outcomes that could readily be ascertained. Some suggestions are made in Appendix 8 concerning a possible evaluative study, should one be made by some other organization.

This study was conducted under the guidance of a panel composed of members of the Board on Human-Resource Data and Analyses and the Board on Fellowships and Associateships, which operated from 1974 to 1977 under the Commission on Human Resources. We are indebted to the panel--Elizabeth Gantt, Monroe Donsker, Winton Manning, and Lee Grodzins, panel chairman--for their work in guiding the preparation of this document. The study was designed and carried out by Lindsey R. Harmon, Project Director, who was ably assisted in the work by Norma Melendez and Susan Henry. We are greatly indebted to them for bringing this work to completion.

Harrison Shull
Chairman
Commission on Human Resources

## HIGHLIGHTS

The NSF Graduate Fellows of 1952-1972 calendar years were followed up in this study to determine their subsequent career achievements. The major findings are very briefly summarized below. For details and qualifying comments, a careful reading of the text is recommended.

- 84% of the Fellows of the 1950's had attained doctorates by 1974 (86% of the men and 56% of the women); of the Fellows of subsequent years, the percentages are somewhat lower, depending on the passage of time available for completion of studies.

- The mean BA-to-PhD time lapse for NSF Fellows is about 30% less than for the typical PhD of the same field, sex, and graduation cohort. The variations about these means are also smaller--typically about half as large as for the general population of PhD's.

- BA-to-PhD time lapse for female Fellows is typically longer by 6% to 16% than that for male Fellows. A similar difference by sex characterizes the general PhD population.

- NSF Fellows' plans at PhD include postdoctoral study in about 30% more of the cases than is typical for PhD's in general.

- Approximately 11% of the male NSF Graduate Fellows and 4% of the female Fellows from the 1950's were awarded NSF Postdoctoral Fellowships; these percentages dropped to 5% and 2.5%, respectively, for the Fellows of the mid-1960's and to 1% or less for the late 1960's and early 1970's.

- Approximately one third of the NSF Graduate Fellows have been identified as members of faculties of U.S. colleges and universities in the mid-1970's. This proportion varies by field, by fellowship cohort, and by sex, and may be an underestimation because of the difficulties of determining faculty membership.

- Over one third of the former NSF Graduate Fellows of the earliest cohort (1952-1961) had by 1974 become the dissertation advisers of one or more students who had been granted doctorates at U.S. universities.

- Almost 99% of the NSF Fellows took their doctorate training in Roose-Andersen rated departments, but only about 20% of all Fellows were found, in the mid-1970's, to be employed as faculty members in departments in this category; 12% were so employed in unrated departments, while two-thirds were either not faculty members or could not be so identified.

- Followed up in the surveys of doctoral scientists and engineers in 1973 and 1975, about two-thirds of the former NSF Fellows who had attained doctorates were employed in institutions of higher education; 5% to 6% were employed by the Federal government, 1% by state and local governments, about 20% by business and industry, and about 5% by all other employer categories.

- Teaching and research are the primary work activities most frequently mentioned by the PhD's among former NSF Graduate Fellows--each activity characterizing almost 40% of the group. Administration of research is the third most frequent activity (8% to 9%); a wide variety of other activities characterizes the work of the rest of the group.

- Former NSF Fellows are frequent contributors to the scientific literature--much more so than the typical PhD. The number of publications varies widely by field, cohort, and sex, as does also the number of times their work is cited by others. In a comparable PhD cohort (1960-1964) the NSF Fellows publish nearly 40% more than the average of all science PhD's, and are cited more than twice as often.

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# CAREER ACHIEVEMENTS OF NSF GRADUATE FELLOWS:
## The Awardees of 1952-1972

### Introduction

This report concerns the persons awarded National Science Foundation Graduate Fellowships over the period 1952-1972. There were, in all, 13,278 winners of these Fellowships--11,686 men and 1,592 women. Career achievements of these individuals will be discussed in terms of the following criteria: attainment of the doctorate; award of a postdoctoral fellowship; becoming a faculty member; achieving dissertation adviser status; migration from PhD institution to employment; winning of research grants; employment after the doctorate; and publications and citations. The NSF Fellowship program is still in operation but not enough time has elapsed for substantial numbers of the more recent Fellows to have attained any of the criteria of career accomplishment used in this report. Accordingly, Fellows awarded grants after 1972 have been excluded from this study. Dates throughout are in terms of calendar years.

The data on career outcomes will be presented in tabular form and occasionally interpreted in graphic displays. Where feasible, comparative data on the corresponding base population of PhD's will be presented. However, no statement of policy implications will be attempted. Whenever year of fellowship award is used, it refers to the year of first award, in the event that more than one award was made. No special data collection was attempted for this study. The data resources of the Commission on Human Resources (CHR) of the National Research Council provide information on substantial and usually representative samples of the basic population. The nature of the CHR data, and the extent to which data were available regarding the fellowship-holding population will be described in the report.

Following the description of the objective findings of this report, the data potentials for a further study are described. Such a study, by an organization not involved in the selection process as is the NRC, might be of an evaluative nature, concerned with both the selection of Fellows and with evaluation of the NSF Fellowship program. In this report, the potential parameters for such a study, but not the specific design, are indicated in Appendix 8.

It might be noted, in examining this report, that there is no mention in it of racial/ethnic data. This is due simply to the fact that such data were not collected with respect to the candidates for NSF Fellowships.

## Criteria of Career Achievement

### 1. Attainment of the Doctorate

The first step in the career of a graduate fellow that can be evaluated as a measure of success is the attainment of the doctorate. This is noted via the Doctorate Records File (DRF) of the CHR, which has been maintained for many years under the sponsorship of a number of government agencies. The DRF contains the names of all PhD's (or holders of equivalent third-level degrees) from United States universities from 1920 to the present. The record for each PhD contains information on all degrees held, including the institution granting the degree, the fields, and the years in which granted. For all persons graduating since 1957--which would include almost all of the NSF Graduate Fellows--there is extensive information about plans for the year immediately following award of the doctorate, citizenship, etc. The main use of the DRF for this report, however, will be to tabulate the achievement of the first step after the award of the fellowship--the attainment of the doctorate.

### 2. Award of a Postdoctoral Fellowship

For those who attain the doctorate, the award of a Postdoctoral Fellowship by the NSF represents another measure of career achievement. Information on this criterion comes from the same source as the original list of NSF Fellows--the Cumulative Index of NSF applicants and awardees. The competition for the postdoctoral fellowships was keen, and an award represents the judgment of a panel of scientists, largely academic, that the individual has displayed a high potential for achievement in research and teaching. Although many other postdoctoral awards are made by other organizations, the NSF awards were the ones available within the limitations of this project.

### 3. Becoming a Faculty Member

The National Faculty Directory provides an "outside" source of information about academic employment of former NSF Fellows. This directory, available in both book and computer tape form, is assembled by a private organization, and is published yearly. It attempts to include all the faculties of U.S. institutions of higher education, compiled from the catalogs of the institutions, and includes, together with the name, the institution and department of all faculty included. Although there may be omissions and even some errors in the tape transcription, this source of data provides very usable statistics regarding aggregations of individuals.

4. Achieving Dissertation Adviser Status

Some of the NSF Fellows eventually become advisers of PhD candidates in United States universities. Those who do are noted in the Dissertation Adviser File of the CHR, an outgrowth of the DRF. This is made possible by the fact that each new PhD lists the name of his dissertation adviser; these names are then collected into a single file, which provides the career information sought.

5. Migration from PhD Institution to Employment

For those who enter academic employment, a measure of the shift from graduate institution to institution of employment is provided by use of the Roose-Andersen (R-A) ratings published by the American Council on Education in 1970 (see A Rating of Graduate Programs). These departmental ratings apply only to doctorate-granting departments; departments which only recently began granting doctorates are not included; four-year colleges and masters-only institutions also are not included. Use of these ratings thus serves to quantify the inevitable movement of the majority of PhD graduates out of the rated category of institutions into those which have not been rated. To perform this analysis, a tape with the R-A ratings was collated with the CHR tapes which indicated departments (inferred from field of PhD) of graduation and departments of employment (from the National Faculty Directory) for those who were academically employed. By comparing the frequency of the rated departments in the two sources, and the mean rating of those departments within the scope of the Roose-Andersen system, it is possible to chart the movement from the granting of the doctorate to later employment.

6. Winning of Research Grants

The National Institutes of Health and the National Science Foundation award grants in aid of research on a competitive basis, on the strength of peer judgments of the worthiness of the proposed research. A computer tape was secured from each of these agencies, the two tapes were merged, and then searched for data on the award of research grants to the NSF Graduate Fellows. The available data tapes from these two sources were not complete; they covered grants by the NSF for the period 1967-1972, and for the NIH the years 1962-1971. Despite the limitations of coverage, they do provide one additional index of career achievement for these Fellows.

## 7. Employment after the Doctorate

For those who attain PhD's, whether or not they enter academic employment, it is possible to determine (for a carefully-selected sample) important information with respect to later employment, such as employer category, primary work activity, and salary. This was done by reference to the Comprehensive Roster of Doctoral Scientists and Engineers, which is maintained by the CHR under the sponsorship of the NSF, with the assistance of other government agencies. To ascertain the employment data, a representative sample of persons included in the Comprehensive Roster is followed up each two years and current employment and related data are requested. The Comprehensive Roster thus became the source for a number of the data tables in the present report.

## 8. Publications and Citations

No single index of achievement can be taken as completely satisfactory; each must be viewed as partial data. One item of data of considerable importance in the scientific and academic world is the number of publications in the scientific literature. A closely related item is the number of citations of these publications by other scientists. A source of information on both of these matters is available from the Institute for Scientific Information (ISI) which searches a very large and inclusive segment of the world's scientific literature, and makes the results available in both printed and computerized form. It was the computer tape from the ISI which furnished the data on publications and citations used in the current follow-up of NSF Fellows.

## 9. Limitations of Publication and Citation Counts as Career Criteria

Because the names of authors in the ISI data were given in the form of the last name and first and middle initials, a large number of persons appeared with identical names, indistinguishable in the ISI data. To minimize the probability of misinformation from this source, the files of the CHR were reduced to the same format, and all persons with identical names (when so truncated) were eliminated before the publications and citations were counted for the present study. This step necessarily eliminated a number of Fellows with identical names (or names identical with others in the file who were not NSF Fellows) but there is no reason to believe that the remaining cases (termed unique name cases) were in any way a biased sample of the population.

The proportion of Fellows with unique names who appeared in the ISI data could then be used to estimate the proportion of Fellows who had published. Another limitation of these data, of course, is that only first-named authors are included. Again, this is a limitation of great importance where individuals are concerned, but its effect on aggregations, such as the present statistics, is minimal. The same procedure, and the same limitations, applies to the proportions cited in the scientific literature: this is taken as a good estimation of the citations to all NSF Graduate Fellows. Counts of these publications and citations were taken from the ISI data for the years 1961 through 1972 inclusive. Although this particular year span is not necessarily optimal for this particular group of individuals, it constituted the available data source, and the resources for this project did not permit a more closely tailored data set. Attention to finer detail in this matter might well be undertaken if a more exacting analysis is made at some future date.

The several sources of information cited above were used to provide a variety of data regarding the career attainments of the NSF Graduate Fellows of 1952-1972. Not all of the data available in these sources were used in the tabulations described in what follows, due to the limited time and funds available for the analyses.

In the pages that follow, the data available from these sources with regard to the NSF Graduate Fellows will be described. Where available, comparable data regarding the entire population of PhD's, by the same graduation cohorts, will be presented to form a frame of reference for the NSF data. Because the NSF Fellows are a highly-selected group, and because of the fact that they received support during their graduate years, it is recognized that there are complications to the matter of comparisons. Evaluations of the significance of the comparisons with the generality of PhD's therefore will not be attempted here. Comparative data with respect to all of the career achievement criteria were not available, as indicated earlier, because of the limitations of time and funds for this study. Such comparative data with respect to all of the data sources is potentially available, however, should a more searching study later be attempted.

## CAREER CRITERION ACHIEVEMENTS BY NSF FELLOWS

### Proportion Awarded the Doctorate

Table 1 shows the percentage of Graduate Fellows, by sex and by cohort of first award, who attained the doctorate by 1974, the most recent year for which the DRF was complete at the time these tabulations were made. The data are presented by field of award, by field groups--EMP (Engineering, Mathematics, and the Physical Sciences) and Bio/behavioral--and for the total of all fields combined. The first row of each field set shows the number of awardees; the second row shows the percentage of this number who have attained doctorates. It will be noted immediately that in some fields the numbers of women are so small that the percentages have low reliability; i.e. they cannot be relied upon to indicate significant trends. For the sake of consistency, however, all percentages are shown; the presence of the numbers should serve to make the unreliability evident where N is small. For the latest cohort (1972) the numbers are small even for the men in the separate fields, but in the field groupings they are large enough for good reliability.

### Rate of Doctorate Attainment

The data of Table 1 combine all levels of award.* For rates of doctorate attainment, a break-out by level is more informative, and is provided in Appendix 1. Figure 1 was prepared from these appendix figures, and shows the three levels of award separately. As expected, the Terminal year awardees have the highest attainment rates, and reach the maximum rate earliest. It will be noted that the horizontal axis has here been interpreted in two ways, by cohort of first support and by years from first support to 1974. Because of the small number of cases at the Terminal level, the curve is somewhat jagged, but the general level is above the 90% point for the period greater than 10 years after the award, and above the 80% point for the earliest data on the chart.

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* First year fellows are those with less than 1 year of graduate school at the time of award; Terminal fellows are those within 1 year of the PhD at the time of award; Intermediate fellows are all others.

The second line in Figure 1 is for the Intermediate level, which includes all cases between the first year of graduate study and the terminal year. It reaches a high point just below 95%, and is consistently above the 80% point after 8 years beyond the first award. The third line is for the First-year people; here we see that the percentage of PhD attainment rises quite rapidly, passing the 50% point (which represents median performance) at five years, and reaches a maximum of about 80% at 15 years after the first award. Unfortunately, there are not available any general normative data against which to compare this performance, as there is no roster of beginning graduate students whose rate of progress might serve as a norm. The most nearly comparable data regarding the general population of graduate students are based on the successful cases only--those who have attained the doctorate. Data on this group may be found in Doctorate Recipients from U.S. Universities, 1958-1966; more up-to-date data will be forthcoming soon in the report A Century of Doctorates.

## Baccalaureate-to-Doctorate Time Lapse

Table 2 shows the baccalaureate-to-doctorate time lapse data for the NSF Graduate Fellows who had attained the doctorate by 1974. The data in this table are by year of PhD, rather than by year of first award. There are two reasons for this change in cohort definition. The first is that only PhD cohort data are available for comparison. The second is that if award-cohort data were shown, there would be a bias in the data, inasmuch as only the most rapid of the recent cohorts would have graduated, as compared to almost all of the older cohorts who might ever be expected to earn PhD's. The intervening years would be expected to show a rather steady trend which would, however, be largely artifactual. As it is, the data are presented by field and by sex, as these factors have been shown in previous research to have a strong influence on rate of doctorate attainment. In Table 3 the baccalaureate-to-doctorate data for all PhD's are presented for comparison purposes. No evaluation is here attempted of the reasons why the time lapse is much less in the case of the NSF Fellows than for the generality of PhD's in the same fields. Studies of this question were made by the NAS Office of Scientific Personnel and published as Technical Reports #14 (January 1959) and #18 (March 1961) regarding NSF Fellowship applicants and awardees of the 1950's.

Table 1

Percentage of NSF Graduate Fellows of 1952-1972 Attaining PhD's by 1974, by Cohort of First Award, Sex, and Field of Application

| Field of Application | | Men | | | | | Women | | | | | Both Sexes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total |
| Mathematics | N* | 516 | 743 | 691 | 64 | 2014 | 34 | 55 | 70 | 1 | 160 | 550 | 798 | 761 | 65 | 2174 |
| | PhD % | 81.8 | 75.5 | 53.4 | 7.8 | 67.4 | 52.9 | 52.7 | 40.0 | | 46.9 | 80.0 | 73.9 | 52.2 | 7.7 | 65.9 |
| Physics | N | 987 | 643 | 454 | 36 | 2120 | 19 | 14 | 14 | 1 | 48 | 1006 | 657 | 468 | 37 | 2168 |
| | PhD % | 88.1 | 87.7 | 53.7 | 5.6 | 79.2 | 68.4 | 57.1 | 28.6 | | 52.1 | 87.8 | 87.1 | 53.0 | 5.4 | 78.6 |
| Chemistry | N | 907 | 510 | 393 | 34 | 1844 | 72 | 37 | 44 | 5 | 158 | 979 | 547 | 437 | 39 | 2002 |
| | PhD % | 93.8 | 91.6 | 66.9 | 8.8 | 85.9 | 55.6 | 75.7 | 61.4 | | 60.1 | 91.0 | 90.5 | 66.4 | 7.7 | 83.9 |
| Geosciences | N | 274 | 159 | 137 | 18 | 588 | 9 | 9 | 10 | 4 | 32 | 283 | 168 | 147 | 22 | 620 |
| | PhD % | 87.6 | 86.8 | 46.7 | | 75.2 | 33.3 | 66.7 | 10.0 | | 31.3 | 85.9 | 85.7 | 44.2 | | 72.9 |
| Engineering | N | 748 | 627 | 472 | 85 | 1932 | 1 | 9 | 7 | 3 | 20 | 749 | 636 | 479 | 88 | 1952 |
| | PhD % | 73.1 | 71.3 | 47.9 | 9.4 | 63.6 | | 44.4 | 28.6 | | 30.0 | 73.0 | 70.9 | 47.6 | 9.1 | 63.2 |
| EMP Total** | N | 3432 | 2682 | 2147 | 237 | 8498 | 135 | 124 | 145 | 14 | 418 | 3567 | 2806 | 2292 | 251 | 8916 |
| | PhD % | 85.4 | 81.2 | 54.3 | 7.6 | 74.0 | 54.8 | 60.5 | 42.8 | | 50.5 | 84.2 | 80.3 | 53.6 | 7.2 | 72.9 |
| Biosciences | N | 788 | 469 | 492 | 79 | 1828 | 207 | 201 | 225 | 44 | 677 | 995 | 670 | 717 | 123 | 2505 |
| | PhD % | 89.5 | 87.4 | 61.0 | 3.8 | 77.6 | 56.0 | 57.2 | 47.1 | 2.3 | 49.9 | 82.5 | 78.4 | 56.6 | 3.3 | 70.1 |
| Psychology | N | 98 | 143 | 132 | 31 | 404 | 43 | 50 | 90 | 16 | 199 | 141 | 193 | 222 | 47 | 603 |
| | PhD % | 92.9 | 82.5 | 59.1 | 3.2 | 71.3 | 48.8 | 56.0 | 47.8 | 6.3 | 46.7 | 79.4 | 75.6 | 54.5 | 4.3 | 63.2 |
| Soc Sci & Oth | N | 98 | 329 | 446 | 83 | 956 | 28 | 63 | 177 | 30 | 298 | 126 | 392 | 623 | 113 | 1254 |
| | PhD % | 89.8 | 73.9 | 40.8 | 2.4 | 53.9 | 67.9 | 46.0 | 30.5 | 3.3 | 34.6 | 84.9 | 69.4 | 37.9 | 2.7 | 49.3 |
| Bio/Beh Total | N | 984 | 941 | 1070 | 193 | 3188 | 278 | 314 | 492 | 90 | 1174 | 1262 | 1255 | 1562 | 283 | 4362 |
| | PhD % | 89.8 | 81.9 | 52.3 | 3.1 | 69.7 | 56.1 | 54.8 | 41.3 | 3.3 | 45.5 | 82.4 | 75.1 | 48.8 | 3.2 | 63.2 |
| GRAND TOTAL | N | 4416 | 3623 | 3217 | 430 | 11686 | 413 | 438 | 637 | 104 | 1592 | 4829 | 4061 | 3854 | 534 | 13278 |
| | PhD % | 86.4 | 81.4 | 53.7 | 5.6 | 72.8 | 55.7 | 56.4 | 41.6 | 2.9 | 46.8 | 83.7 | 78.7 | 51.7 | 5.1 | 69.7 |

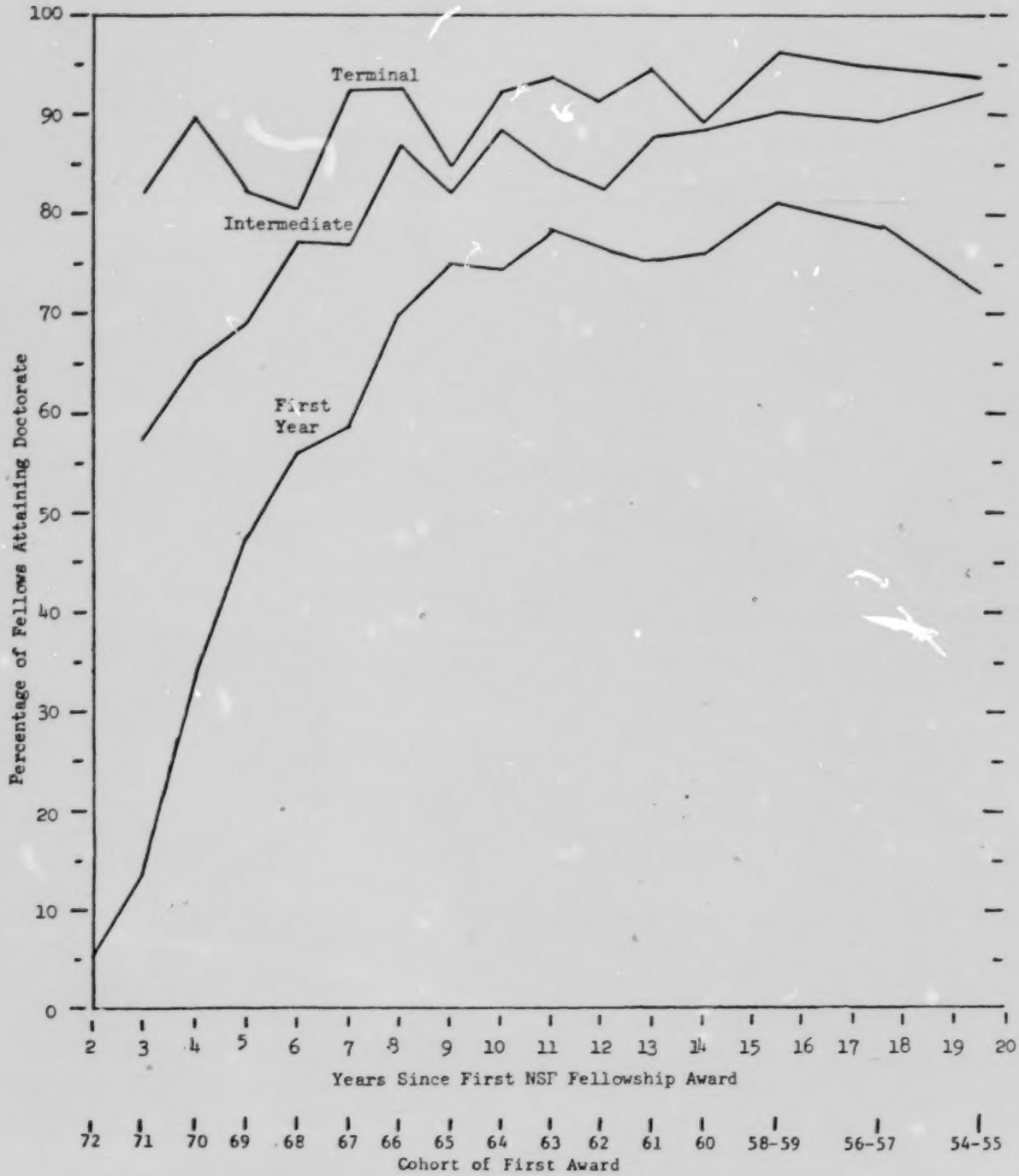
* N stands for number of awardees; PhD % is percent attaining doctorates.

** EMP stands for Engineering, Mathematics, and Physical Sciences.

SOURCE: NRC, Commission on Human Resources

Figure 1

Doctorate Attainment as a Function of Years Since First NSF Award,
For First Year, Intermediate, and Terminal Fellows




* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

Table 2

Baccalaureate-to-Doctorate Time Lapse in Years for NSF Fellows of 1952-1972, by Field, Sex, and PhD Cohort

| | MEN | | | | | | WOMEN | | | | | | BOTH SEXES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1950-54 | 1955-59 | 1960-64 | 1965-69 | 1970-74 | TOTAL | 1950-54 | 1955-59 | 1960-64 | 1965-69 | 1970-74 | TOTAL | 1950-54 | 1955-59 | 1960-64 | 1965-69 | 1970-74 | TOTAL |
| Mathematics | | | | | | | | | | | | | | | | | | |
| Number* | 19 | 96 | 219 | 510 | 467 | 1311 | -- | 3 | 5 | 27 | 36 | 71 | 19 | 99 | 224 | 537 | 503 | 1382 |
| Mean | -- | 4.83 | 5.02 | 5.13 | 5.47 | 5.20 | -- | -- | -- | 5.15 | 5.92 | 5.70 | -- | 4.83 | 5.08 | 5.13 | 5.50 | 5.22 |
| S.D. | -- | 2.09 | 2.00 | 2.05 | 2.19 | 2.10 | -- | -- | -- | 2.05 | 2.50 | 2.60 | -- | 2.06 | 2.13 | 2.05 | 2.22 | 2.13 |
| Physics | | | | | | | | | | | | | | | | | | |
| Number | 47 | 231 | 386 | 549 | 440 | 1653 | -- | 2 | 2 | 11 | 11 | 26 | 47 | 233 | 388 | 560 | 451 | 1679 |
| Mean | 4.56 | 5.33 | 5.73 | 5.85 | 6.11 | 5.78 | -- | -- | -- | -- | -- | 6.12 | 4.56 | 5.32 | 5.74 | 5.86 | 6.11 | 5.79 |
| S.D. | 1.73 | 1.66 | 1.85 | 2.04 | 2.23 | 2.02 | -- | -- | -- | -- | -- | 1.51 | 1.73 | 1.65 | 1.84 | 2.03 | 2.22 | 2.01 |
| Chemistry | | | | | | | | | | | | | | | | | | |
| Number | 69 | 327 | 341 | 404 | 393 | 1534 | -- | 12 | 17 | 26 | 34 | 89 | 69 | 339 | 358 | 430 | 427 | 1623 |
| Mean | 4.25 | 4.44 | 5.12 | 4.96 | 5.25 | 4.93 | -- | -- | -- | 5.75 | 5.28 | 5.36 | 4.25 | 4.45 | 5.13 | 5.01 | 5.25 | 4.95 |
| S.D. | 2.13 | 1.52 | 2.03 | 1.71 | 1.55 | 1.76 | -- | -- | -- | 2.83 | 2.37 | 2.25 | 2.13 | 1.51 | 2.01 | 1.80 | 1.63 | 1.79 |
| Geosciences | | | | | | | | | | | | | | | | | | |
| Number | 11 | 68 | 117 | 127 | 103 | 426 | 1 | 1 | 1 | 6 | 3 | 12 | 12 | 69 | 118 | 133 | 106 | 438 |
| Mean | -- | 5.76 | 6.30 | 6.57 | 6.60 | 6.32 | -- | -- | -- | -- | -- | -- | -- | 5.78 | 6.28 | 6.50 | 6.68 | 6.32 |
| S.D. | -- | 2.42 | 2.63 | 2.59 | 2.93 | 2.66 | -- | -- | -- | -- | -- | -- | -- | 2.40 | 2.62 | 2.58 | 3.05 | 2.69 |
| Engineering | | | | | | | | | | | | | | | | | | |
| Number | 18 | 116 | 268 | 382 | 340 | 1124 | -- | -- | -- | 2 | 2 | 4 | 18 | 116 | 268 | 384 | 342 | 1128 |
| Mean | -- | 5.22 | 5.73 | 5.87 | 5.73 | 5.70 | -- | -- | -- | -- | -- | -- | -- | 5.22 | 5.73 | 5.86 | 5.73 | 5.70 |
| S.D. | -- | 2.19 | 2.58 | 3.02 | 2.33 | 2.63 | -- | -- | -- | -- | -- | -- | -- | 2.19 | 2.58 | 3.02 | 2.32 | 2.63 |
| Life Sciences | | | | | | | | | | | | | | | | | | |
| Number | 59 | 256 | 277 | 344 | 416 | 1352 | 7 | 37 | 34 | 105 | 124 | 307 | 66 | 293 | 311 | 449 | 540 | 1659 |
| Mean | 5.36 | 5.92 | 6.59 | 6.29 | 6.12 | 6.19 | -- | 7.85 | 7.03 | 6.55 | 6.46 | 6.69 | 5.33 | 6.17 | 6.64 | 6.35 | 6.20 | 6.28 |
| S.D. | 2.35 | 2.81 | 2.91 | 3.19 | 2.54 | 2.85 | -- | 5.05 | 4.14 | 4.44 | 2.78 | 3.87 | 2.29 | 3.24 | 3.06 | 3.52 | 2.60 | 3.07 |
| Psychology | | | | | | | | | | | | | | | | | | |
| Number | 7 | 36 | 51 | 94 | 101 | 289 | -- | 9 | 5 | 26 | 52 | 92 | 7 | 45 | 56 | 120 | 153 | 381 |
| Mean | -- | 6.13 | 5.53 | 5.43 | 5.32 | 5.47 | -- | -- | -- | 5.54 | 6.04 | 5.91 | -- | 5.92 | 5.74 | 5.45 | 5.57 | 5.58 |
| S.D. | -- | 3.44 | 2.12 | 2.14 | 2.05 | 2.29 | -- | -- | -- | 2.63 | 3.65 | 3.40 | -- | 3.31 | 2.55 | 2.24 | 2.71 | 2.61 |
| Social Sciences | | | | | | | | | | | | | | | | | | |
| Number | 3 | 10 | 36 | 137 | 233 | 419 | -- | 6 | 5 | 17 | 46 | 74 | 3 | 16 | 41 | 154 | 279 | 493 |
| Mean | -- | -- | 6.75 | 6.31 | 6.93 | 6.69 | -- | -- | -- | -- | 7.80 | 7.78 | -- | -- | 6.71 | 6.57 | 7.08 | 6.86 |
| S.D. | -- | -- | 2.27 | 2.66 | 3.26 | 2.99 | -- | -- | -- | -- | 3.27 | 3.75 | -- | -- | 2.25 | 3.11 | 3.27 | 3.14 |
| Grand Total** | | | | | | | | | | | | | | | | | | |
| Number | 235 | 1143 | 1706 | 2584 | 2543 | 8211 | 8 | 70 | 71 | 226 | 322 | 697 | 243 | 1213 | 1777 | 2810 | 2865 | 8908 |
| Mean | 4.72 | 5.22 | 5.72 | 5.69 | 5.90 | 5.67 | -- | 6.59 | 7.13 | 6.27 | 6.45 | 6.46 | 4.75 | 5.30 | 5.78 | 5.74 | 5.96 | 5.73 |
| S.D. | 2.22 | 2.23 | 2.36 | 2.50 | 2.42 | 2.42 | -- | 4.16 | 5.36 | 3.80 | 3.11 | 3.72 | 2.22 | 2.40 | 2.56 | 2.63 | 2.52 | 2.55 |

* Number is the number for a given cohort who had attained the doctorate by 1974.

** Grand Total includes some Fellows who subsequently switched to a non-science field.

SOURCE: NRC, Commission on Human Resources

Table 3

Normative Data from the Doctorate Records File: Mean and S.D. of Baccalaureate-to-Doctorate Time Lapse in Years

| | MEN | | | | | WOMEN | | | | | BOTH SEXES | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1950 -54 | 1955 -59 | 1960 -64 | 1965 -69 | 1970 -74 | 1950 -54 | 1955 -59 | 1960 -64 | 1965 -69 | 1970 -74 | 1950 -54 | 1955 -59 | 1960 -64 | 1965 -69 | 1970 -74 |
| **Mathematics** | | | | | | | | | | | | | | | |
| Mean | 8.06 | 8.20 | 7.93 | 6.96 | 7.57 | 9.40 | 12.07 | 9.72 | 8.37 | 8.43 | 8.13 | 8.38 | 8.04 | 7.04 | 7.64 |
| S.D. | 4.82 | 4.66 | 4.51 | 3.78 | 3.66 | 4.95 | 7.81 | 7.15 | 4.78 | 4.96 | 4.83 | 4.92 | 4.73 | 3.86 | 3.79 |
| **Physics** | | | | | | | | | | | | | | | |
| Mean | 7.35 | 7.41 | 7.56 | 7.26 | 7.63 | 7.97 | 9.00 | 9.98 | 7.43 | 7.95 | 7.36 | 7.45 | 7.59 | 7.27 | 7.64 |
| S.D. | 3.69 | 3.60 | 3.39 | 3.27 | 3.36 | 4.23 | 4.57 | 5.23 | 2.95 | 3.32 | 3.71 | 3.63 | 3.44 | 3.26 | 3.36 |
| **Chemistry** | | | | | | | | | | | | | | | |
| Mean | 6.65 | 6.39 | 6.82 | 6.58 | 6.81 | 7.87 | 8.57 | 7.45 | 7.56 | 7.49 | 6.70 | 6.49 | 6.86 | 6.65 | 6.68 |
| S.D. | 3.53 | 3.28 | 3.49 | 3.50 | 3.35 | 4.73 | 5.82 | 4.24 | 4.63 | 4.07 | 3.60 | 3.47 | 3.54 | 3.60 | 3.43 |
| **Geosciences** | | | | | | | | | | | | | | | |
| Mean | 8.09 | 8.16 | 8.71 | 8.73 | 9.14 | -- | -- | -- | 10.22 | 9.21 | 8.14 | 8.19 | 8.74 | 8.76 | 9.14 |
| S.D. | 4.78 | 4.42 | 4.55 | 4.25 | 4.80 | -- | -- | -- | 6.38 | 5.34 | 4.86 | 4.47 | 4.58 | 4.31 | 4.82 |
| **Engineering** | | | | | | | | | | | | | | | |
| Mean | 7.79 | 8.27 | 8.20 | 8.23 | 8.57 | -- | -- | 8.54 | 8.00 | 8.81 | 7.80 | 8.30 | 8.20 | 8.23 | 8.57 |
| S.D. | 3.95 | 4.43 | 4.35 | 4.50 | 4.49 | -- | -- | 3.11 | 4.18 | 4.73 | 4.00 | 4.49 | 4.35 | 4.50 | 4.49 |
| **Life Sciences** | | | | | | | | | | | | | | | |
| Mean | 8.07 | 8.11 | 8.60 | 8.38 | 8.22 | 9.51 | 10.47 | 10.27 | 9.19 | 9.05 | 8.20 | 8.32 | 8.76 | 8.49 | 8.35 |
| S.D. | 4.71 | 4.36 | 4.34 | 4.47 | 4.26 | 5.63 | 6.21 | 5.89 | 5.78 | 5.75 | 4.82 | 4.61 | 4.54 | 4.67 | 4.53 |
| **Psychology** | | | | | | | | | | | | | | | |
| Mean | 7.79 | 8.24 | 8.55 | 7.94 | 7.77 | 10.90 | 11.89 | 11.59 | 10.62 | 9.76 | 8.18 | 8.83 | 9.13 | 8.54 | 8.32 |
| S.D. | 4.78 | 4.55 | 4.68 | 4.65 | 4.53 | 6.51 | 7.80 | 7.47 | 7.26 | 6.79 | 5.14 | 5.39 | 5.46 | 5.45 | 5.33 |
| **Social Sciences** | | | | | | | | | | | | | | | |
| Mean | 10.36 | 10.62 | 10.39 | 9.80 | 9.64 | 12.32 | 13.76 | 13.41 | 12.53 | 11.01 | 10.51 | 10.87 | 10.65 | 10.08 | 9.84 |
| S.D. | 5.70 | 5.81 | 5.72 | 5.70 | 5.39 | 6.55 | 7.92 | 8.26 | 8.09 | 7.03 | 5.80 | 6.07 | 6.03 | 6.05 | 5.67 |

SOURCE: NRC, Commission on Human Resources

## Plans at PhD: An Early Indicator of Probable Outcomes

As mentioned earlier, data on actual employment in the years following award of the doctorate are available for only a sample of the Fellows. However, previous studies* have indicated that the information provided on the Survey of Earned Doctorates with regard to plans for the first year after graduation is a reliable indicator of what will actually occur. Furthermore, as data on plans are available for all PhD's, not just a sample, it seems justifiable to examine these data as early indicators. Table 4 shows in brief outline what the plans at PhD were for those NSF Fellows who attained the doctorate. These data may be compared with those for the total of all PhD's published annually in the Summary Reports of the DRF, and to be published soon in A CENTURY OF DOCTORATES. Table 4 combines all fields and both sexes; detailed data by field and sex are given in Table 5.

Table 4

NSF Fellows' Plans at PhD, All Fields Combined

| | | Cohort of PhD | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1960-64 | 65-68 | 69-70 | 71-72 | 73-74 | Total |
| Postdoctoral Training | Number | 509 | 574 | 390 | 464 | 329 | 2266 |
| | Percent | 28.5 | 25.9 | 31.9 | 36.6 | 32.8 | 30.2 |
| Academic Employment | Number | 674 | 956 | 463 | 469 | 386 | 2948 |
| | Percent | 37.8 | 43.1 | 37.9 | 37.0 | 38.4 | 39.3 |
| Nonacademic Employment | Number | 531 | 579 | 299 | 251 | 223 | 1883 |
| | Percent | 29.7 | 26.1 | 24.5 | 19.8 | 22.2 | 25.1 |
| Other, and Plans Unknown | Number | 71 | 110 | 70 | 83 | 66 | 400 |
| | Percent | 4.0 | 5.0 | 5.7 | 6.6 | 6.6 | 5.3 |
| NSF Fellows with PhD's since 1960 | | 1785 | 2219 | 1222 | 1267 | 1004 | 7497 |

It is immediately evident that Table 4, and Table 5 (p.13) do not include all the NSF Fellows who have graduated. The data begin only with the 1960 graduation cohort because the Doctorate Records File does not contain data on these plans for the Fellows who have graduated earlier. The cohorts shown, it will be noted, are not all of equal length: the first is a five-year cohort; the next includes 4 years, the rest are two years each. The reason is that the

* Mobility of PhD's, Before and After the Doctorate, National Academy of Sciences, 1971

Table 5

Postdoctoral Plans of NSF Fellows, by Field, Sex, and Cohort of PhD, 1960-1974

| | | MEN | | | | | | WOMEN | | | | | | BOTH SEXES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1960 -64 | 1965 -68 | 1969 -70 | 1971 -72 | 1973 -74 | TOTAL | 1960 -64 | 1965 -68 | 1969 -73 | 1971 -72 | 1973 -74 | TOTAL | 1960 -64 | 1965 -68 | 1969 -70 | 1971 -72 | 1973 -74 | GRAND TOTAL |
| **FIELD OF PHD - MATHEMATICS** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N* | 35 | 39 | 28 | 26 | 13 | 141 | 1 | | | 1 | 2 | 4 | 36 | 39 | 28 | 27 | 15 | 145 |
| | V | 15.8 | 10.1 | 12.2 | 12.6 | 8.1 | 11.7 | 20.0 | | | 7.7 | 13.3 | 5.9 | 15.9 | 9.5 | 11.5 | 12.3 | 8.6 | 11.4 |
| ACADEMIC EMPL | N | 142 | 277 | 164 | 140 | 106 | 827 | 3 | 16 | 10 | 11 | 11 | 51 | 145 | 293 | 174 | 151 | 115 | 878 |
| | V | 64.0 | 71.4 | 71.3 | 67.6 | 65.0 | 68.5 | 60.0 | 76.2 | 71.4 | 84.6 | 73.3 | 75.0 | 63.9 | 71.6 | 71.3 | 68.6 | 65.7 | 68.9 |
| NONACAD EMPL | N | 35 | 53 | 25 | 26 | 32 | 171 | 1 | 2 | 1 | | 1 | 5 | 36 | 55 | 26 | 26 | 33 | 176 |
| | V | 15.8 | 13.7 | 10.9 | 12.6 | 20.0 | 14.2 | 20.0 | 9.5 | 7.1 | | 6.7 | 7.4 | 15.9 | 13.4 | 10.7 | 11.8 | 18.9 | 13.8 |
| OTHER/UNKNOWN PLANS | N | 10 | 19 | 13 | 15 | 11 | 68 | | 3 | 3 | 1 | 1 | 8 | 10 | 22 | 16 | 16 | 12 | 76 |
| | V | 4.5 | 4.9 | 5.7 | 7.2 | 6.9 | 5.6 | | 14.3 | 21.4 | 7.7 | 6.7 | 11.8 | 4.4 | 5.4 | 6.6 | 7.3 | 6.9 | 6.0 |
| TOTAL | N | 222 | 388 | 230 | 207 | 160 | 1207 | 5 | 21 | 14 | 13 | 15 | 68 | 227 | 409 | 244 | 220 | 175 | 1275 |
| **PHYSICS** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N | 104 | 130 | 92 | 119 | 79 | 524 | | 1 | | 5 | 1 | 8 | 104 | 132 | 92 | 124 | 80 | 532 |
| | V | 26.9 | 29.0 | 44.0 | 59.5 | 57.7 | 37.9 | | 16.7 | | 62.5 | 50.0 | 32.0 | 26.7 | 28.6 | 43.8 | 59.6 | 57.6 | 37.8 |
| ACADEMIC EMPL | N | 162 | 168 | 35 | 33 | 14 | 412 | | 2 | 1 | 3 | 1 | 7 | 162 | 170 | 36 | 36 | 15 | 419 |
| | V | 41.9 | 37.4 | 16.7 | 16.5 | 10.2 | 29.8 | | 16.7 | 100.0 | 37.5 | 50.0 | 28.0 | 41.6 | 36.9 | 17.1 | 17.3 | 10.8 | 29.8 |
| NONACAD EMPL | N | 105 | 123 | 63 | 37 | 31 | 359 | 1 | 5 | | | | 6 | 106 | 128 | 63 | 37 | 31 | 365 |
| | V | 27.1 | 27.4 | 30.1 | 18.5 | 22.6 | 26.0 | 50.0 | 41.7 | | | | 24.0 | 27.2 | 27.8 | 30.0 | 17.8 | 22.3 | 25.9 |
| OTHER/UNKNOWN PLANS | N | 16 | 28 | 19 | 11 | 13 | 87 | 1 | 3 | | | | 4 | 17 | 31 | 19 | 11 | 13 | 91 |
| | V | 4.1 | 6.2 | 9.1 | 5.5 | 9.5 | 6.3 | 50.0 | 25.0 | | | | 16.0 | 4.4 | 6.7 | 9.0 | 5.3 | 9.4 | 6.5 |
| TOTAL | N | 387 | 449 | 209 | 200 | 137 | 1382 | 2 | 12 | 1 | 8 | 2 | 25 | 389 | 461 | 213 | 208 | 139 | 1407 |
| **CHEMISTRY** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N | 135 | 139 | 80 | 94 | 70 | 518 | 8 | 8 | 6 | 1 | 5 | 28 | 143 | 147 | 86 | 95 | 75 | 546 |
| | V | 39.5 | 41.7 | 48.2 | 56.0 | 52.6 | 45.4 | 47.1 | 38.1 | 60.0 | 6.7 | 33.3 | 35.9 | 39.8 | 41.5 | 48.9 | 51.9 | 50.7 | 44.8 |
| ACADEMIC EMPL | N | 85 | 99 | 36 | 28 | 24 | 272 | 3 | 9 | | 6 | 5 | 23 | 88 | 108 | 36 | 34 | 29 | 295 |
| | V | 24.9 | 29.7 | 21.7 | 16.7 | 18.0 | 23.8 | 17.6 | 42.9 | | 40.0 | 33.3 | 29.5 | 24.5 | 30.5 | 20.5 | 18.6 | 19.6 | 24.2 |
| NONACAD EMPL | N | 111 | 86 | 37 | 32 | 32 | 298 | 5 | 4 | 3 | 3 | 4 | 19 | 116 | 90 | 40 | 35 | 36 | 317 |
| | V | 32.5 | 25.8 | 22.3 | 19.0 | 24.1 | 26.1 | 29.4 | 19.0 | 30.0 | 20.0 | 26.7 | 24.4 | 32.3 | 25.4 | 22.7 | 19.1 | 24.3 | 26.0 |
| OTHER/UNKNOWN PLANS | N | 11 | 9 | 13 | 14 | 7 | 54 | 1 | | 1 | 5 | 1 | 8 | 12 | 9 | 14 | 14 | 8 | 62 |
| | V | 3.2 | 2.7 | 7.8 | 8.3 | 5.3 | 4.7 | 5.9 | | 10.0 | 33.3 | 6.7 | 10.3 | 3.3 | 2.5 | 8.0 | 10.4 | 5.4 | 5.1 |
| TOTAL | N | 342 | 333 | 166 | 168 | 133 | 1142 | 17 | 21 | 10 | 15 | 15 | 78 | 359 | 354 | 176 | 183 | 148 | 1220 |
| **GEOSCIENCES** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N | 24 | 23 | 19 | 18 | 6 | 90 | 1 | 1 | | 1 | | 3 | 25 | 24 | 19 | 19 | 6 | 93 |
| | V | 20.5 | 21.9 | 43.2 | 34.0 | 20.7 | 25.9 | 100.0 | 20.0 | | 100.0 | | 30.0 | 21.2 | 21.8 | 41.3 | 35.2 | 23.0 | 26.0 |
| ACADEMIC EMPL | N | 36 | 49 | 8 | 18 | 9 | 120 | | 2 | | | 1 | 3 | 36 | 51 | 8 | 18 | 10 | 123 |
| | V | 30.8 | 46.7 | 18.2 | 34.0 | 31.0 | 34.5 | | 40.0 | | | 100.0 | 30.0 | 30.5 | 46.4 | 17.4 | 33.3 | 33.3 | 34.4 |
| NONACAD EMPL | N | 53 | 31 | 14 | 17 | 12 | 127 | | 2 | 2 | | | 4 | 53 | 33 | 16 | 17 | 12 | 131 |
| | V | 45.3 | 29.5 | 31.8 | 32.1 | 41.4 | 36.5 | | 40.0 | 100.0 | | | 40.0 | 44.9 | 30.0 | 34.8 | 31.5 | 40.0 | 36.6 |
| OTHER/UNKNOWN PLANS | N | 4 | 2 | 3 | | 2 | 11 | | | | | | | 4 | 2 | 3 | | 2 | 11 |
| | V | 3.4 | 1.9 | 6.8 | | 6.9 | 3.2 | | | | | | | 3.4 | 1.8 | 6.5 | | 6.7 | 3.1 |
| TOTAL | N | 117 | 105 | 44 | 53 | 29 | 348 | 1 | 5 | 2 | 1 | 1 | 10 | 118 | 110 | 46 | 54 | 30 | 358 |

* V means vertical percentage, based on the total number (N) within each field.

SOURCE: NRC, Commission on Human Resources

Table 5 (continued)

Postdoctoral Plans of NSF Fellows, by Field, Sex, and Cohort of PhD, 1960-1974

| | | MEN | | | | | | WOMEN | | | | | | BOTH SEXES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1960-64 | 1965-68 | 1969-70 | 1971-72 | 1973-74 | TOTAL | 1960-64 | 1965-68 | 1969-70 | 1971-72 | 1973-74 | TOTAL | 1960-64 | 1965-68 | 1969-73 | 1971-72 | 1973-74 | GRAND TOTAL |
| **ENGINEERING** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N | 23 | 33 | 17 | 17 | 17 | 107 | | | | | | | 23 | 33 | 17 | 17 | 17 | 107 |
| | V* | 8.6 | 11.0 | 9.9 | 11.4 | 15.7 | 10.7 | | | | | | | 8.6 | 10.9 | 9.9 | 11.4 | 15.5 | 10.7 |
| ACADEMIC EMPL | N | 81 | 71 | 38 | 35 | 25 | 250 | | | 1 | | | 1 | 81 | 71 | 39 | 35 | 25 | 251 |
| | V | 30.2 | 23.6 | 22.2 | 23.5 | 23.1 | 25.1 | | | 100.0 | | | 25.0 | 30.2 | 23.5 | 22.7 | 23.5 | 22.9 | 25.1 |
| NONACAD EMPL | N | 158 | 180 | 112 | 94 | 62 | 606 | | 1 | | | 2 | 3 | 158 | 181 | 112 | 94 | 64 | 609 |
| | V | 59.0 | 59.8 | 65.5 | 63.1 | 57.4 | 60.8 | | 100.0 | | | 100.0 | 75.0 | 59.0 | 59.9 | 65.1 | 63.1 | 58.2 | 60.8 |
| OTHER/UNKNOWN PLANS | N | 6 | 17 | 4 | 3 | 4 | 34 | | | | | | | 6 | 17 | 7 | 3 | 4 | 34 |
| | V | 2.2 | 5.6 | 2.3 | 2.0 | 3.7 | 3.4 | | | | | | | 2.2 | 5.6 | 2.3 | 2.0 | 3.6 | 3.4 |
| TOTAL | N | 268 | 301 | 171 | 149 | 108 | 997 | | 1 | 1 | | 2 | 4 | 268 | 302 | 172 | 149 | 110 | 1001 |
| **LIFE SCIENCES** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N | 131 | 129 | 96 | 116 | 91 | 563 | 18 | 46 | 29 | 41 | 25 | 159 | 149 | 175 | 125 | 157 | 116 | 722 |
| | V | 47.1 | 49.0 | 57.5 | 59.8 | 65.9 | 54.1 | 51.4 | 58.2 | 65.9 | 67.2 | 53.2 | 59.8 | 47.6 | 51.2 | 59.2 | 61.6 | 62.7 | 55.3 |
| ACADEMIC EMPL | N | 100 | 84 | 51 | 50 | 30 | 315 | 8 | 20 | 9 | 10 | 12 | 59 | 108 | 104 | 60 | 60 | 42 | 374 |
| | V | 36.0 | 31.9 | 30.5 | 25.8 | 21.7 | 30.3 | 22.9 | 25.3 | 20.5 | 16.4 | 25.5 | 22.2 | 34.5 | 30.4 | 28.4 | 23.5 | 22.7 | 28.6 |
| NONACAD EMPL | N | 38 | 41 | 15 | 14 | 10 | 118 | 4 | 6 | 3 | 4 | 5 | 24 | 42 | 47 | 18 | 18 | 15 | 140 |
| | V | 13.7 | 15.6 | 9.0 | 7.2 | 7.2 | 11.3 | 11.4 | 7.6 | 6.8 | 6.6 | 10.6 | 8.5 | 13.4 | 13.7 | 8.5 | 7.1 | 8.1 | 10.7 |
| OTHER/UNKNOWN PLANS | N | 9 | 9 | 5 | 14 | 7 | 44 | 5 | 7 | 3 | 6 | 5 | 26 | 14 | 16 | 8 | 20 | 12 | 70 |
| | V | 3.2 | 3.4 | 3.0 | 7.2 | 5.1 | 4.2 | 14.3 | 8.9 | 6.8 | 9.8 | 10.6 | 9.8 | 4.5 | 4.7 | 3.8 | 7.8 | 6.5 | 5.4 |
| TOTAL | N | 278 | 263 | 167 | 194 | 138 | 1040 | 35 | 79 | 44 | 61 | 47 | 266 | 313 | 342 | 211 | 255 | 185 | 1306 |
| **PSYCHOLOGY** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N | 16 | 15 | 7 | 14 | 9 | 61 | 1 | 4 | 4 | 4 | 5 | 18 | 17 | 19 | 11 | 18 | 14 | 79 |
| | V | 31.4 | 20.8 | 17.9 | 33.3 | 20.9 | 24.7 | 20.0 | 18.2 | 36.4 | 20.0 | 23.8 | 21.7 | 30.4 | 20.2 | 22.0 | 29.0 | 23.4 | 23.9 |
| ACADEMIC EMPL | N | 26 | 47 | 24 | 22 | 24 | 145 | 2 | 11 | 5 | 12 | 17 | 47 | 28 | 58 | 31 | 34 | 41 | 192 |
| | V | 51.0 | 65.3 | 66.7 | 52.4 | 55.8 | 58.7 | 40.0 | 50.0 | 45.5 | 60.0 | 68.0 | 56.6 | 50.0 | 61.7 | 62.0 | 54.8 | 68.3 | 58.2 |
| NONACAD EMPL | N | 7 | 8 | 5 | 3 | 7 | 30 | 2 | 5 | 1 | 4 | 3 | 15 | 9 | 13 | 6 | 7 | 10 | 45 |
| | V | 13.7 | 11.1 | 12.8 | 7.1 | 16.3 | 12.1 | 40.0 | 22.7 | 9.1 | 20.0 | 12.0 | 18.1 | 16.1 | 13.8 | 12.0 | 11.3 | 16.7 | 13.6 |
| OTHER/UNKNOWN PLANS | N | 2 | 2 | 1 | 3 | 3 | 11 | | 2 | 1 | | | 3 | 2 | 4 | 2 | 3 | 3 | 14 |
| | V | 3.9 | 2.8 | 2.6 | 7.1 | 7.0 | 4.5 | | 9.1 | 9.1 | | | 3.6 | 3.6 | 4.3 | 4.0 | 4.8 | 5.0 | 4.2 |
| TOTAL | N | 51 | 72 | 39 | 42 | 43 | 247 | 5 | 22 | 11 | 20 | 25 | 83 | 56 | 94 | 50 | 62 | 68 | 330 |
| **SOCIAL SCIENCES** | | | | | | | | | | | | | | | | | | | |
| POSTDOC TRAINING | N | 9 | 5 | 3 | 6 | 2 | 25 | 2 | | 1 | | 2 | 5 | 11 | 5 | 4 | 6 | 4 | 30 |
| | V | 25.0 | 5.0 | 3.8 | 6.3 | 2.1 | 6.1 | 40.0 | | 10.0 | | 9.5 | 7.4 | 20.8 | 4.4 | 4.5 | 5.2 | 3.4 | 6.3 |
| ACADEMIC EMPL | N | 17 | 68 | 59 | 69 | 72 | 285 | | 10 | 8 | 16 | 17 | 51 | 17 | 78 | 67 | 85 | 89 | 336 |
| | V | 47.2 | 67.3 | 74.7 | 71.9 | 74.2 | 69.7 | | 76.9 | 80.0 | 84.2 | 81.0 | 75.0 | 41.5 | 68.4 | 75.3 | 73.9 | 75.4 | 70.4 |
| NONACAD EMPL | N | 7 | 21 | 15 | 14 | 17 | 74 | 3 | 3 | 1 | 2 | 1 | 10 | 10 | 24 | 16 | 16 | 18 | 84 |
| | V | 19.4 | 20.8 | 19.0 | 14.6 | 17.5 | 18.1 | 60.0 | 23.1 | 10.0 | 10.5 | 4.8 | 14.7 | 24.4 | 21.1 | 18.0 | 13.9 | 15.3 | 17.6 |
| OTHER/UNKNOWN PLANS | N | 3 | 7 | 2 | 7 | 6 | 25 | | | | 1 | 1 | 2 | 3 | 7 | 2 | 8 | 7 | 27 |
| | V | 8.3 | 6.9 | 2.5 | 7.3 | 6.2 | 6.1 | | | | 5.3 | 4.8 | 2.9 | 7.3 | 6.1 | 2.2 | 7.0 | 5.9 | 5.7 |
| TOTAL | N | 36 | 101 | 79 | 96 | 97 | 409 | 5 | 13 | 10 | 19 | 21 | 68 | 41 | 114 | 89 | 115 | 118 | 477 |

* V means vertical percentage, based on the total number (N) within each field.

SOURCE: NRC, Commission on Human Resources

numbers in the earlier cohorts were rather small in individual fields, and, in any case, greater interest centers on the time trends during the more recent years.

Four categories of plans are provided: (1) for all types of postdoctoral training, whether in a fellowship, traineeship, or associateship; (2) for immediate employment in an academic setting, here interpreted to mean any institution of higher education, from junior college to university; (3) nonacademic employment, which means any other category of employer than higher education; and (4) other plans uncertain on the part of the graduate, or that the item was left blank.

## Comparison with All Graduates

To provide some context for interpretation of the data of Table 5, two additional tables, showing the most nearly comparable data on all doctorate-level graduates are given. These tables, deriving from the Doctorate Records File, are excerpted from the forthcoming book, A CENTURY OF DOCTORATES. The data on post-PhD plans, given in Table 6, include the same cohorts of graduation as Table 5, and the same fields of doctorate, except that in Table 6 the social sciences field group is divided into economics/econometrics and all other social sciences. Under "plans" categories, postdoctoral training is the same in both tables. Employment categories are slightly different however; hence Table 7 is provided, showing employer categories as a proportion of all planning immediate employment.

## Winning NSF Postdoctoral Fellowships

Turning from plans to actual achievement, the next step up the career ladder, for a portion of the PhD's, is the award of an NSF Postdoctoral Fellowship. The relevant data, by cohort and sex, are given in Table 8. Data on women are scanty in Table 8, except for the total and two most general sub-fields, EMP (engineering, mathematics, and the physical sciences) and Bio/behavioral (the life sciences, social sciences, and psychology). However, within these groupings they show the same trend as the data for men. For both sexes, as would be expected, the percentage of postdoctoral fellowships varies directly with the years since the first award of a graduate fellowship.

# PhD Plans, by Field, Sex, and Cohort: PhD's of 1960-1974

| | Men | | | | | | Women | | | | | | BOTH SEXES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1960 -64 | 1965 -68 | 1969 -70 | 1971 -72 | 1973 -74 | TOTAL 60-74 | 1960 -64 | 1965 -68 | 1969 -70 | 1971 -72 | 1973 -74 | TOTAL 60-74 | 1960 -64 | 1965 -68 | 1969 -70 | 1971 -72 | 1973 -74 | TOTAL 60-74 |
| **PHD FIELD - MATHEMATICS** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 8.5 | 4.2 | 8.3 | 9.2 | 8.9 | 8.1 | 5.4 | 4.1 | 4.4 | 12.5 | 7.4 | 7.0 | 8.3 | 4.2 | 8.1 | 9.4 | 8.8 | 8.0 |
| EMPLOYMENT | 85.5 | 87.4 | 85.5 | 82.3 | 81.6 | 84.7 | 87.7 | 85.8 | 87.4 | 81.1 | 83.9 | 84.9 | 85.7 | 87.4 | 85.6 | 82.2 | 81.8 | 84.7 |
| MILITARY SVC | 2.0 | 1.8 | 2.0 | 2.5 | 1.4 | 1.9 | | | | | | | 1.8 | 1.7 | 1.8 | 2.3 | 1.2 | 1.8 |
| OTHER PLANS | .1 | .2 | .2 | .2 | .2 | .2 | 3.1 | 3.0 | 2.5 | 2.4 | 3.3 | 2.9 | .3 | .4 | .3 | .3 | .5 | .4 |
| UNKNOWN | 3.7 | 4.1 | 4.0 | 5.7 | 7.4 | 5.1 | 3.8 | 7.1 | 5.7 | 3.6 | 5.4 | 4.2 | 3.9 | 4.3 | 4.1 | 5.7 | 7.6 | 5.1 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **PHYSICS** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 16.6 | 23.7 | 37.1 | 42.8 | 44.4 | 31.3 | 8.6 | 16.8 | 41.7 | 42.9 | 44.8 | 33.1 | 16.5 | 23.6 | 37.2 | 42.8 | 44.4 | 31.4 |
| EMPLOYMENT | 76.0 | 68.3 | 53.8 | 45.9 | 43.3 | 59.3 | 74.1 | 73.9 | 52.1 | 45.5 | 40.8 | 55.5 | 75.9 | 68.5 | 53.7 | 45.8 | 43.2 | 59.2 |
| MILITARY SVC | 2.9 | 2.8 | 2.4 | 2.1 | 3.0 | 2.6 | | | | | | | 2.8 | 2.7 | 2.3 | 2.1 | 2.9 | 2.6 |
| OTHER PLANS | .2 | .1 | .3 | .3 | .3 | .2 | 3.4 | .8 | | 2.7 | | 1.3 | .2 | .1 | .2 | .3 | .3 | .2 |
| UNKNOWN | 4.4 | 5.2 | 6.4 | 9.0 | 9.0 | 6.5 | 13.8 | 8.4 | 6.3 | 8.9 | 14.4 | 10.2 | 4.5 | 5.1 | 6.6 | 9.0 | 9.2 | 6.6 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **CHEMISTRY** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 25.0 | 29.7 | 36.7 | 49.6 | 46.4 | 35.4 | 29.1 | 33.5 | 37.9 | 43.4 | 45.0 | 38.1 | 25.2 | 30.0 | 36.8 | 49.3 | 46.3 | 35.6 |
| EMPLOYMENT | 70.3 | 64.1 | 57.5 | 42.2 | 44.7 | 58.2 | 63.7 | 60.5 | 51.8 | 41.8 | 43.7 | 52.5 | 67.9 | 61.9 | 57.0 | 42.2 | 44.6 | 51.7 |
| MILITARY SVC | 1.9 | 3.2 | 2.4 | 2.9 | 1.9 | 2.5 | | | | .3 | | .1 | 1.8 | 2.9 | 2.2 | 2.6 | 1.7 | 2.3 |
| OTHER PLANS | .1 | .1 | .1 | .1 | .1 | .1 | 3.2 | 2.4 | 2.7 | 1.4 | 1.3 | 2.2 | .2 | .2 | .3 | .3 | .2 | .3 |
| UNKNOWN | 2.8 | 3.0 | 3.3 | 5.5 | 6.9 | 3.9 | 4.1 | 3.6 | 7.6 | 10.9 | 10.1 | 7.1 | 2.9 | 3.0 | 3.6 | 5.7 | 7.2 | 4.1 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **GEOSCIENCES** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 8.2 | 11.7 | 20.6 | 21.5 | 21.8 | 15.9 | 11.1 | 8.8 | 28.9 | 26.2 | 23.2 | 22.8 | 8.2 | 11.4 | 20.9 | 21.9 | 21.8 | 16.0 |
| EMPLOYMENT | 85.1 | 81.7 | 73.5 | 71.2 | 68.7 | 77.0 | 66.7 | 82.4 | 65.8 | 50.0 | 69.6 | 64.8 | 85.1 | 81.7 | 73.2 | 70.5 | 68.8 | 76.8 |
| MILITARY SVC | 1.8 | 2.5 | 2.4 | 2.8 | 1.8 | 2.3 | | | | | | | 1.8 | 2.4 | 2.3 | 2.7 | 1.7 | 2.2 |
| OTHER PLANS | .1 | | .1 | .1 | .2 | .1 | 11.1 | 2.9 | 2.6 | 2.6 | | 2.7 | .2 | .1 | .2 | .2 | .2 | .2 |
| UNKNOWN | 4.6 | 4.1 | 3.4 | 4.5 | 7.5 | 4.8 | 11.1 | 5.9 | 2.6 | 13.2 | 7.1 | 9.6 | 4.7 | 4.4 | 3.4 | 4.8 | 7.5 | 4.9 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **ENGINEERING** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 4.9 | 5.2 | 8.3 | 12.9 | 12.1 | 8.6 | 11.8 | 8.2 | 7.1 | 4.8 | 11.8 | 9.3 | 4.9 | 5.3 | 8.2 | 12.9 | 12.1 | 8.6 |
| EMPLOYMENT | 88.4 | 87.0 | 84.6 | 77.6 | 75.1 | 83.0 | 85.3 | 86.6 | 85.7 | 78.6 | 81.2 | 81.8 | 88.4 | 86.9 | 84.6 | 77.6 | 75.2 | 83.0 |
| MILITARY SVC | 4.0 | 4.3 | 4.1 | 4.3 | 3.3 | 4.1 | | | | | | | 4.0 | 4.3 | 4.0 | 4.1 | 3.7 | 4.1 |
| OTHER PLANS | .1 | .1 | .2 | .3 | .1 | .2 | | 5.3 | 3.6 | 2.4 | 1.2 | 2.7 | .1 | .1 | .2 | .3 | .1 | .2 |
| UNKNOWN | 2.6 | 3.4 | 2.8 | 4.9 | 7.9 | 4.2 | 2.9 | 2.8 | 3.6 | 14.3 | 5.8 | 6.2 | 2.6 | 3.4 | 2.8 | 4.9 | 7.8 | 4.2 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **LIFE SCI TOT** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 21.7 | 27.6 | 35.8 | 37.3 | 36.6 | 31.3 | 29.0 | 36.4 | 44.3 | 46.4 | 49.1 | 43.4 | 22.4 | 28.7 | 37.2 | 39.7 | 38.8 | 33.8 |
| EMPLOYMENT | 73.4 | 67.0 | 57.7 | 54.9 | 54.4 | 62.2 | 64.1 | 57.3 | 46.0 | 45.7 | 39.4 | 49.1 | 72.9 | 65.1 | 56.3 | 51.3 | 51.4 | 60.4 |
| MILITARY SVC | 2.0 | 2.3 | 2.1 | 1.7 | 1.5 | 2.0 | | | | .1 | .2 | .1 | 1.8 | 2.0 | 2.0 | 1.5 | 1.3 | 1.7 |
| OTHER PLANS | .5 | .1 | .1 | .2 | .1 | .2 | 3.0 | 2.4 | 2.9 | 1.6 | 1.0 | 1.9 | .5 | .4 | .4 | .4 | .3 | .4 |
| UNKNOWN | 2.5 | 2.9 | 3.9 | 5.9 | 7.4 | 4.3 | 3.8 | 3.8 | 6.7 | 6.2 | 9.9 | 6.6 | 2.4 | 3.0 | 4.1 | 7.0 | 8.3 | 5.6 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **PSYCHOLOGY** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 10.4 | 13.2 | 13.4 | 12.4 | 11.2 | 12.3 | 10.0 | 10.9 | 17.1 | 12.4 | 14.2 | 12.4 | 10.3 | 12.7 | 13.3 | 12.7 | 12.8 | 12.4 |
| EMPLOYMENT | 84.2 | 82.3 | 82.3 | 78.1 | 77.0 | 80.0 | 82.1 | 82.0 | 81.5 | 78.2 | 72.5 | 78.1 | 83.8 | 82.6 | 82.1 | 78.1 | 76.8 | 80.0 |
| MILITARY SVC | 2.6 | 3.1 | 2.7 | 3.2 | 3.1 | 2.9 | .1 | | | .2 | .2 | .1 | 2.1 | 2.5 | 2.1 | 2.6 | 2.2 | 2.3 |
| OTHER PLANS | .3 | .1 | .2 | .3 | .4 | .3 | 4.0 | 3.0 | 1.3 | 1.8 | .5 | 1.9 | 2.7 | 3.7 | 3.6 | 4.0 | 3.5 | 3.6 |
| UNKNOWN | 2.5 | 2.3 | 3.4 | 5.7 | 7.3 | 4.5 | 3.2 | 4.1 | 0.0 | 7.4 | 8.3 | 5.6 | 1.0 | 1.0 | 0.0 | 0.0 | 7.6 | 4.8 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **ECON & METRC** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 1.6 | 2.3 | 3.6 | 4.4 | 4.2 | 2.9 | 2.1 | .8 | 4.0 | 2.3 | 3.5 | 2.3 | 1.6 | 2.2 | 3.7 | 4.2 | 4.1 | 2.8 |
| EMPLOYMENT | 93.0 | 90.7 | 89.5 | 88.7 | 88.4 | 90.3 | 88.7 | 90.8 | 88.0 | 94.7 | 87.4 | 89.4 | 91.8 | 90.7 | 89.4 | 89.1 | 89.4 | 90.3 |
| MILITARY SVC | 1.2 | 1.5 | 2.4 | 1.0 | .2 | 1.3 | | | | | | | 1.1 | 1.4 | 2.1 | 1.0 | .3 | 1.2 |
| OTHER PLANS | | .1 | | | .2 | .1 | 3.1 | 4.0 | 1.0 | 1.5 | 1.4 | 2.2 | .1 | .2 | .1 | .1 | .2 | .1 |
| UNKNOWN | 4.2 | 5.4 | 5.8 | 5.8 | 6.7 | 5.4 | 6.2 | 4.8 | 7.0 | 1.5 | 7.7 | 6.1 | 5.4 | 5.5 | 5.6 | 5.6 | 6.0 | 5.6 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **OTHER SOC SCIS** | | | | | | | | | | | | | | | | | | |
| POSTDOC STUDY | 3.8 | 3.2 | 4.3 | 4.3 | 4.3 | 4.1 | 3.8 | 4.2 | 7.8 | 7.1 | 7.3 | 5.9 | 3.8 | 3.2 | 4.9 | 4.4 | 3.9 | 4.4 |
| EMPLOYMENT | 89.0 | 89.6 | 88.5 | 87.2 | 84.8 | 87.7 | 85.2 | 86.1 | 85.1 | 82.4 | 83.2 | 84.5 | 88.6 | 89.2 | 88.0 | 86.7 | 84.5 | 87.2 |
| MILITARY SVC | 1.4 | 1.8 | 2.0 | 1.6 | .2 | 1.5 | | | | .1 | | | 1.3 | 1.6 | 1.8 | 1.3 | .7 | 1.3 |
| OTHER PLANS | .1 | .3 | .2 | .1 | .2 | .2 | 3.5 | 3.1 | 2.0 | 1.7 | 1.0 | 2.2 | .7 | .4 | .4 | .4 | .4 | .5 |
| UNKNOWN | 5.4 | 5.5 | 5.0 | 6.9 | 9.6 | 6.5 | 5.2 | 6.6 | 5.1 | 8.6 | 8.4 | 7.4 | 9.4 | 9.4 | 4.9 | 7.1 | 9.4 | 6.7 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

SOURCE: NRC, Commission on Human Resources

## Table 7

### Percentage Distribution of Planned Employer Categories, for New PhD's by Field, Sex, and Cohort of PhD

(Data from Doctorate Records File)

| | MEN | | | | | | WOMEN | | | | | | BOTH SEXES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1960-64 | 1965-69 | 1970-73 | 1971-72 | 1973-74 | TOTAL 60-74 | 1960-64 | 1965-69 | 1970-73 | 1971-72 | 1973-74 | TOTAL 60-74 | 1960-64 | 1965-69 | 1970-73 | 1971-72 | 1973-74 | TOTAL 60-74 |
| **PHD FIELD - MATHEMATICS** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 68.4 | 74.8 | 81.8 | 81.7 | 72.7 | 75.9 | 78.1 | 78.7 | 93.7 | 84.8 | 74.9 | 81.8 | 69.2 | 74.7 | 82.7 | 81.9 | 72.9 | 76.2 |
| BUS/IND | 15.1 | 11.1 | 11.7 | 8.8 | 13.4 | 11.7 | 3.1 | 3.5 | 2.2 | 5.1 | 8.4 | 5.0 | 13.6 | 10.6 | 11.0 | 8.5 | 12.6 | 11.2 |
| U.S. GOVT | 3.5 | 2.8 | 2.0 | 3.8 | 4.3 | 3.2 | | .6 | | 1.9 | 3.0 | 1.3 | 3.2 | 2.6 | 1.9 | 3.7 | 4.2 | 3.1 |
| US ST/LOC GOV | .3 | .1 | .1 | .2 | .2 | .2 | | | | | .5 | .1 | .2 | .1 | .1 | .2 | .2 | .2 |
| NON-PROFIT | 2.9 | 1.9 | 2.1 | 1.2 | 1.8 | 1.8 | 1.8 | 1.8 | | .6 | 1.5 | 1.2 | 2.8 | 1.8 | 1.9 | 1.1 | 1.8 | 1.8 |
| OTHER OR UNK | 10.8 | 9.7 | 2.1 | .4 | 6.1 | 5.3 | 16.9 | 16.0 | 3.2 | 7.7 | 11.8 | 10.6 | 11.0 | 10.1 | 2.1 | 4.6 | 6.8 | 5.4 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- PHYSICS** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 48.3 | 47.4 | 43.9 | 45.5 | 33.7 | 45.4 | 51.2 | 58.0 | 70.0 | 68.4 | 51.0 | 59.7 | 48.4 | 47.9 | 44.4 | 46.2 | 34.4 | 45.7 |
| BUS/IND | 25.1 | 23.3 | 31.7 | 21.6 | 41.2 | 25.8 | 15.0 | 5.5 | 6.0 | 7.8 | 13.4 | 9.2 | 25.0 | 22.9 | 31.0 | 21.1 | 41.7 | 25.3 |
| U.S. GOVT | 8.0 | 10.3 | 4.7 | 17.0 | 16.4 | 11.4 | 4.7 | 4.5 | 4.0 | 5.9 | 5.4 | 4.9 | 8.0 | 10.4 | 4.6 | 16.6 | 16.4 | 11.3 |
| US ST/LOC GOV | .2 | .1 | 1.0 | .2 | .3 | .5 | | | 2.0 | | | | .2 | .1 | 1.0 | .2 | .3 | .4 |
| NON-PROFIT | 3.0 | 3.2 | 2.0 | 2.0 | 2.9 | 2.6 | | | | | | | 2.9 | 3.1 | 1.9 | 2.0 | 2.8 | 2.6 |
| OTHER OR UNK | 15.2 | 15.6 | 6.3 | 13.6 | 5.5 | 13.1 | 30.2 | 33.0 | 16.0 | 17.6 | 28.5 | 27.4 | 13.5 | 15.1 | 8.2 | 13.9 | 5.4 | 13.4 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- CHEMISTRY** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 22.9 | 26.0 | 29.7 | 35.7 | 23.9 | 26.6 | 39.7 | 45.4 | 62.6 | 61.0 | 37.0 | 48.4 | 23.7 | 27.2 | 32.2 | 37.4 | 25.2 | 28.1 |
| BUS/IND | 58.9 | 56.5 | 54.8 | 43.0 | 58.7 | 54.6 | 27.4 | 20.9 | 20.5 | 14.5 | 34.2 | 24.8 | 57.3 | 54.5 | 54.8 | 42.4 | 58.1 | 53.4 |
| U.S. GOVT | 4.0 | 4.1 | 3.8 | 6.6 | 3.6 | 4.3 | 6.4 | 2.1 | 4.2 | 4.5 | 3.6 | 4.1 | 4.1 | 3.6 | 3.6 | 6.1 | 3.6 | 4.3 |
| US ST/LOC GOV | .2 | .1 | .1 | .2 | .2 | .2 | | | .4 | | .4 | .2 | .2 | .1 | .1 | .2 | .2 | .2 |
| NON-PROFIT | 2.1 | 1.7 | 2.2 | 2.0 | 1.8 | 2.0 | 2.2 | 2.8 | 1.1 | 1.9 | 1.8 | 2.1 | 2.1 | 2.8 | 1.9 | 2.0 | 1.8 | 2.0 |
| OTHER OR UNK | 11.5 | 11.4 | 9.5 | 12.5 | 11.9 | 11.9 | 24.2 | 28.7 | 15.0 | 13.5 | 16.0 | 20.2 | 12.7 | 11.5 | 8.3 | 12.0 | 10.3 | 10.4 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- GEOSCIENCES** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 38.5 | 45.8 | 52.3 | 51.4 | 41.8 | 45.4 | 50.0 | 50.0 | 56.0 | 73.7 | 59.0 | 57.7 | 38.7 | 45.9 | 52.4 | 52.1 | 42.7 | 45.7 |
| BUS/IND | 23.1 | 21.7 | 25.2 | 21.6 | 24.2 | 22.9 | | 3.4 | 4.0 | 10.5 | 20.5 | 9.8 | 22.8 | 21.6 | 24.5 | 21.4 | 24.1 | 22.6 |
| U.S. GOVT | 15.1 | 13.1 | 9.4 | 11.9 | 14.6 | 12.8 | | 21.4 | 16.0 | 10.5 | | 9.8 | 14.8 | 13.2 | 9.7 | 11.8 | 13.9 | 12.7 |
| US ST/LOC GOV | .4 | .1 | .2 | .4 | .4 | .3 | | | 4.0 | | | 2.0 | .4 | .1 | .2 | .4 | .4 | .3 |
| NON-PROFIT | 3.0 | 4.1 | 2.5 | 3.6 | 1.7 | 3.2 | | | 4.0 | | 2.4 | 2.0 | 3.0 | 4.1 | 2.5 | 3.5 | 1.8 | 3.2 |
| OTHER OR UNK | 18.8 | 15.3 | 9.3 | 10.7 | 12.4 | 13.6 | 50.0 | 25.0 | 12.0 | 5.3 | 17.9 | 18.7 | 19.1 | 15.3 | 9.3 | 10.6 | 13.2 | 13.6 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- ENGINEERING** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 39.7 | 34.3 | 37.6 | 32.0 | 25.6 | 33.2 | 31.0 | 24.1 | 34.2 | 34.3 | 33.6 | 45.7 | 39.7 | 34.2 | 37.7 | 32.1 | 26.0 | 33.2 |
| BUS/IND | 42.1 | 43.6 | 51.0 | 46.0 | 54.0 | 46.2 | 24.1 | 57.9 | 29.3 | 21.2 | 24.6 | 26.6 | 42.0 | 43.6 | 50.6 | 45.6 | 51.8 | 46.1 |
| U.S. GOVT | 3.1 | 6.1 | 6.3 | 10.2 | 9.3 | 6.7 | 6.9 | 3.4 | 4.2 | 4.1 | 11.6 | 8.2 | 3.1 | 6.1 | 6.0 | 10.2 | 9.3 | 6.8 |
| US ST/LOC GOV | .3 | .1 | 1.1 | 1.0 | .7 | .7 | | | | | 1.4 | .5 | .3 | .1 | 1.0 | 1.0 | .7 | .7 |
| NON-PROFIT | 3.5 | 3.7 | 1.7 | 2.6 | 2.3 | 3.4 | 3.4 | 3.4 | | 3.0 | 1.4 | 2.2 | 3.5 | 3.7 | 1.6 | 2.6 | 2.3 | 3.4 |
| OTHER OR UNK | 11.3 | 12.0 | 2.6 | 8.3 | 8.0 | 9.7 | 34.5 | 31.0 | 12.5 | 17.1 | 7.2 | 16.8 | 11.4 | 12.1 | 3.6 | 8.3 | 8.0 | 9.7 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- LIFE SCI TOT** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 51.2 | 53.2 | 65.7 | 61.2 | 54.2 | 54.3 | 63.8 | 60.9 | 75.5 | 72.7 | 63.6 | 66.9 | 52.3 | 54.1 | 66.7 | 62.6 | 55.8 | 57.5 |
| BUS/IND | 10.7 | 9.6 | 12.8 | 11.0 | 15.6 | 11.6 | 3.0 | 3.2 | 2.6 | 3.6 | 6.5 | 4.0 | 10.1 | 9.2 | 11.8 | 10.1 | 15.3 | 10.8 |
| U.S. GOVT | 10.3 | 9.9 | 6.4 | 6.8 | 8.2 | 8.6 | 4.9 | 4.3 | 3.0 | 4.2 | 4.4 | 4.2 | 9.8 | 9.2 | 6.0 | 6.3 | 7.7 | 8.4 |
| US ST/LOC GOV | 1.0 | 1.0 | 1.6 | 1.8 | 1.5 | 1.4 | 1.4 | 1.7 | 1.0 | 1.6 | 2.7 | 2.1 | 2.0 | 1.9 | 1.5 | 1.8 | 1.6 | 1.6 |
| NON-PROFIT | 2.8 | 3.0 | 2.9 | 3.6 | 4.1 | 3.2 | 3.4 | 4.1 | 4.3 | 4.6 | 4.0 | 5.5 | 3.1 | 3.4 | 3.0 | 3.9 | 4.2 | 3.6 |
| OTHER OR UNK | 24.1 | 22.3 | 8.7 | 15.6 | 14.7 | 17.0 | 23.3 | 23.6 | 13.7 | 13.3 | 14.0 | 17.3 | 22.6 | 22.2 | 9.8 | 13.4 | 15.0 | 17.5 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- PSYCHOLOGY** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 46.4 | 58.0 | 63.6 | 56.9 | 48.7 | 54.4 | 47.0 | 48.0 | 59.7 | 54.7 | 49.4 | 50.9 | 46.5 | 55.8 | 61.5 | 56.3 | 48.9 | 53.5 |
| BUS/IND | 7.0 | 5.0 | 4.5 | 3.6 | 5.1 | 5.3 | 1.4 | 2.0 | 1.3 | 2.4 | 2.5 | 2.0 | 6.0 | 4.4 | 4.4 | 3.3 | 4.3 | 4.5 |
| U.S. GOVT | 10.0 | 5.5 | 3.1 | 4.7 | 4.6 | 5.8 | 5.7 | 3.8 | 3.8 | 3.5 | 3.2 | 3.7 | 9.2 | 5.1 | 3.2 | 4.6 | 4.7 | 5.3 |
| US ST/LOC GOV | 13.8 | 12.5 | 12.0 | 15.7 | 14.1 | 13.6 | 10.5 | 11.8 | 15.3 | 11.6 | 14.3 | 12.8 | 13.4 | 12.1 | 13.8 | 14.7 | 13.9 | 13.5 |
| NON-PROFIT | 9.4 | 8.2 | 8.0 | 9.3 | 14.0 | 9.4 | 11.1 | 12.2 | 11.9 | 11.5 | 13.5 | 12.2 | 9.7 | 9.0 | 8.6 | 9.9 | 13.9 | 10.5 |
| OTHER OR UNK | 13.4 | 10.1 | 6.9 | 9.7 | 13.4 | 11.1 | 24.3 | 22.2 | 13.3 | 16.3 | 17.1 | 16.5 | 15.5 | 13.5 | 8.4 | 11.4 | 14.6 | 12.9 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- ECON & METRC** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 62.1 | 64.5 | 77.0 | 72.0 | 69.2 | 68.0 | 59.3 | 62.5 | 72.7 | 71.0 | 77.6 | 69.2 | 62.0 | 64.4 | 74.7 | 71.9 | 69.8 | 68.1 |
| BUS/IND | 5.9 | 5.0 | 5.2 | 4.0 | 4.5 | 5.0 | 2.3 | 5.4 | 5.7 | 8.1 | 3.2 | 5.1 | 5.6 | 5.0 | 5.2 | 4.2 | 4.2 | 5.0 |
| U.S. GOVT | 8.6 | 7.3 | 5.3 | 8.0 | 5.0 | 7.5 | 6.3 | 8.0 | 4.8 | 5.8 | 8.8 | 7.7 | 8.6 | 7.3 | 5.4 | 7.8 | 8.0 | 7.5 |
| US ST/LOC GOV | .9 | .7 | 1.9 | 1.3 | 2.5 | 1.3 | 1.2 | | 2.3 | .8 | .4 | .9 | 1.3 | .7 | 1.9 | 1.1 | 1.1 | 1.3 |
| NON-PROFIT | 4.1 | 3.6 | 4.7 | 4.2 | 3.9 | 4.0 | 2.0 | .7 | 2.8 | 3.1 | 2.4 | 2.1 | 4.0 | 3.4 | 4.8 | 4.5 | 3.8 | 4.1 |
| OTHER OR UNK | 18.3 | 18.7 | 5.7 | 9.6 | 14.3 | 13.5 | 28.9 | 23.2 | 12.6 | 10.7 | 7.6 | 14.3 | 18.5 | 19.1 | 8.0 | 10.6 | 13.0 | 13.4 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **- OTHER SOC SCIS** | | | | | | | | | | | | | | | | | | |
| COLL/UNIV | 71.4 | 78.8 | 83.9 | 83.6 | 74.8 | 80.2 | 66.3 | 77.6 | 87.1 | 81.9 | 80.5 | 79.7 | 71.1 | 77.9 | 84.2 | 83.2 | 77.1 | 80.2 |
| BUS/IND | 1.8 | 1.8 | 1.7 | 2.1 | 2.7 | 2.1 | 1.0 | 1.0 | 1.4 | 1.1 | 2.1 | 1.3 | 1.7 | 1.7 | 1.8 | 2.0 | 2.6 | 1.9 |
| U.S. GOVT | 5.4 | 3.0 | 1.5 | 2.5 | 2.1 | 3.1 | 2.9 | 2.2 | .7 | 1.7 | 2.0 | 1.9 | 5.1 | 2.9 | 1.7 | 2.5 | 2.4 | 3.0 |
| US ST/LOC GOV | 2.0 | 1.7 | 1.7 | 1.6 | 2.9 | 2.0 | 3.8 | 1.0 | 2.4 | 3.2 | 2.1 | 2.5 | 2.3 | 1.6 | 2.0 | 1.9 | 2.5 | 2.1 |
| NON-PROFIT | 3.2 | 2.9 | 3.3 | 2.9 | 3.5 | 3.2 | 5.4 | 3.2 | 2.4 | 4.3 | 4.1 | 4.1 | 3.2 | 2.9 | 3.1 | 2.9 | 3.5 | 3.3 |
| OTHER OR UNK | 15.2 | 12.4 | 7.2 | 7.1 | 8.7 | 9.1 | 20.5 | 14.6 | 6.3 | 7.8 | 9.0 | 10.6 | 14.2 | 12.9 | 7.2 | 7.5 | 9.9 | 9.5 |
| TOTAL EMPL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

SOURCE: NRC, Commission on Human Resources, A CENTURY OF DOCTORATES

Table 8

Percentage of Predoctoral Fellows Awarded NSF Postdoctoral Fellowships, by Field, Sex, and Cohort of Predoctoral Award

| Field of Application | | Men | | | | | Women | | | | | Both Sexes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1952 -61 | 1962 -66 | 1967 -71 | 1972 | Total | 1952 -61 | 1962 -66 | 1967 -71 | 1972 | Total | 1952 -61 | 1962 -66 | 1967 -71 | 1972 | Total |
| Mathematics | N * | 516 | 743 | 691 | 64 | 2014 | 34 | 55 | 70 | 1 | 160 | 550 | 798 | 761 | 65 | 2174 |
| | P-D % | 12.2 | 2.8 | .4 | | 4.3 | 2.9 | | | | .6 | 11.6 | 2.6 | .4 | | 4.0 |
| Physics | N | 987 | 643 | 454 | 36 | 2120 | 19 | 14 | 14 | 1 | 48 | 1006 | 657 | 468 | 37 | 2168 |
| | P-D % | 14.1 | 5.1 | 1.1 | | 8.3 | 5.3 | | 7.1 | | 4.2 | 13.9 | 5.0 | 1.3 | | 8.3 |
| Chemistry | N | 907 | 510 | 393 | 34 | 1844 | 72 | 37 | 44 | 5 | 158 | 979 | 547 | 437 | 39 | 2002 |
| | P-D % | 14.7 | 11.0 | 2.8 | | 10.8 | 2.8 | | 2.3 | | 1.9 | 13.8 | 10.2 | 2.7 | | 10.1 |
| Geosciences | N | 274 | 159 | 137 | 18 | 588 | 9 | 9 | 10 | 4 | 32 | 283 | 168 | 147 | 22 | 620 |
| | P-D % | 6.2 | 6.9 | .7 | | 4.9 | | 11.1 | | | 3.1 | 6.0 | 7.1 | .7 | | 4.8 |
| Engineering | N | 748 | 627 | 472 | 85 | 1932 | 1 | 9 | 7 | 3 | 20 | 749 | 636 | 479 | 88 | 1952 |
| | P-D % | 2.8 | 1.6 | .2 | | 1.7 | | | | | | 2.8 | 1.6 | .2 | | 1.6 |
| EMP Total | N | 3432 | 2682 | 2147 | 237 | 8498 | 135 | 124 | 145 | 14 | 418 | 3567 | 2806 | 2292 | 251 | 8916 |
| | P-D % | 10.9 | 4.9 | 1.0 | | 6.2 | 3.0 | .8 | 1.4 | | 1.7 | 10.6 | 4.7 | 1.0 | | 6.0 |
| Biosciences | N | 788 | 469 | 492 | 79 | 1828 | 207 | 201 | 225 | 44 | 677 | 995 | 670 | 717 | 123 | 2505 |
| | P-D % | 13.1 | 7.7 | 1.6 | | 8.0 | 3.4 | 3.5 | | | 2.1 | 11.1 | 6.4 | 1.1 | | 6.4 |
| Psychology | N | 98 | 143 | 132 | 31 | 404 | 43 | 50 | 90 | 16 | 199 | 141 | 193 | 222 | 47 | 603 |
| | P-D % | 10.2 | 4.2 | .8 | | 4.2 | 9.3 | 2.0 | | | 2.5 | 9.9 | 3.6 | .5 | | 3.6 |
| Soc Sci & Oth | N | 98 | 329 | 446 | 83 | 956 | 28 | 63 | 177 | 30 | 298 | 126 | 392 | 623 | 113 | 1254 |
| | P-D % | 12.2 | 1.2 | .2 | | 1.8 | 7.1 | 3.2 | .6 | | 1.7 | 11.1 | 1.5 | .3 | | 1.8 |
| Bio/Beh Total | N | 984 | 941 | 1070 | 193 | 3188 | 278 | 314 | 492 | 90 | 1174 | 1262 | 1255 | 1562 | 283 | 4362 |
| | P-D % | 12.7 | 4.9 | .9 | | 5.7 | 4.7 | 3.2 | .2 | | 2.0 | 10.9 | 4.5 | .7 | | 4.7 |
| GRAND TOTAL | N | 4416 | 3623 | 3217 | 430 | 11686 | 413 | 438 | 637 | 104 | 1592 | 4829 | 4061 | 3854 | 534 | 13278 |
| | P-D % | 11.3 | 4.9 | 1.0 | | 6.0 | 4.1 | 2.5 | .5 | | 1.9 | 10.7 | 4.6 | .9 | | 5.6 |

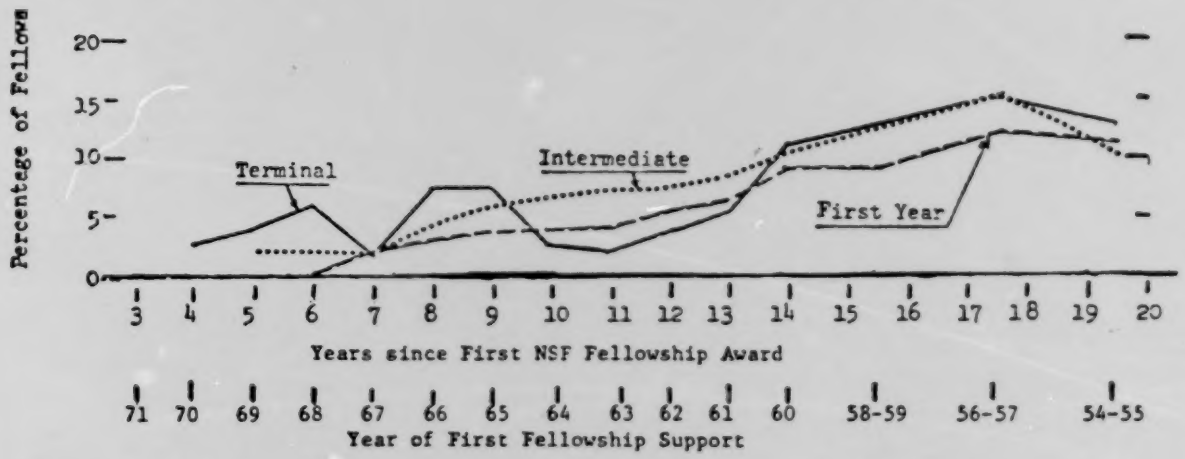
* N is the total of awardees in the given field, cohort, and sex group; P-D % is the percentage of this group who were awarded NSF Postdoctoral Fellowships.

SOURCE: NRC, Commission on Human Resources

The largest numbers, and hence the most stable data in Table 8 are given in the bottom line. Here we see that for all fields combined, 11.3% of the earliest (1952-1961) cohort of men have received NSF Postdoctoral Fellowships, as compared with 4.1% of the women. In award cohort 1962-66, the percentages are 4.9% for the men and 2.5% for the women. In the 1967-71 award cohort, only 1.0% of the men and 0.5% of the women have won NSF Postdoctoral Fellowships. The 1972 awardees did not have time to have won postdoctorals. Overall, for both sexes combined, 5.6% of the former NSF predoctoral Fellows have also become Postdoctoral Fellows. As can be seen in Figure 2, the differences by level of predoctoral fellowship are rather small, and tend to vanish over time, as the Level 1 Fellows have time to attain the doctorate and apply for these Fellowships.

Figure 2

Percentage of Predoctoral Fellows Awarded NSF Postdoctoral Fellowships, by Level,* as a Function of Years since First Fellowship Award


Percentage of Fellows
20
15
10
5
0
Terminal
Intermediate
First Year
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Years since First NSF Fellowship Award
71 70 69 68 67 66 65 64 63 62 61 60 58-59 56-57 54-55
Year of First Fellowship Support

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

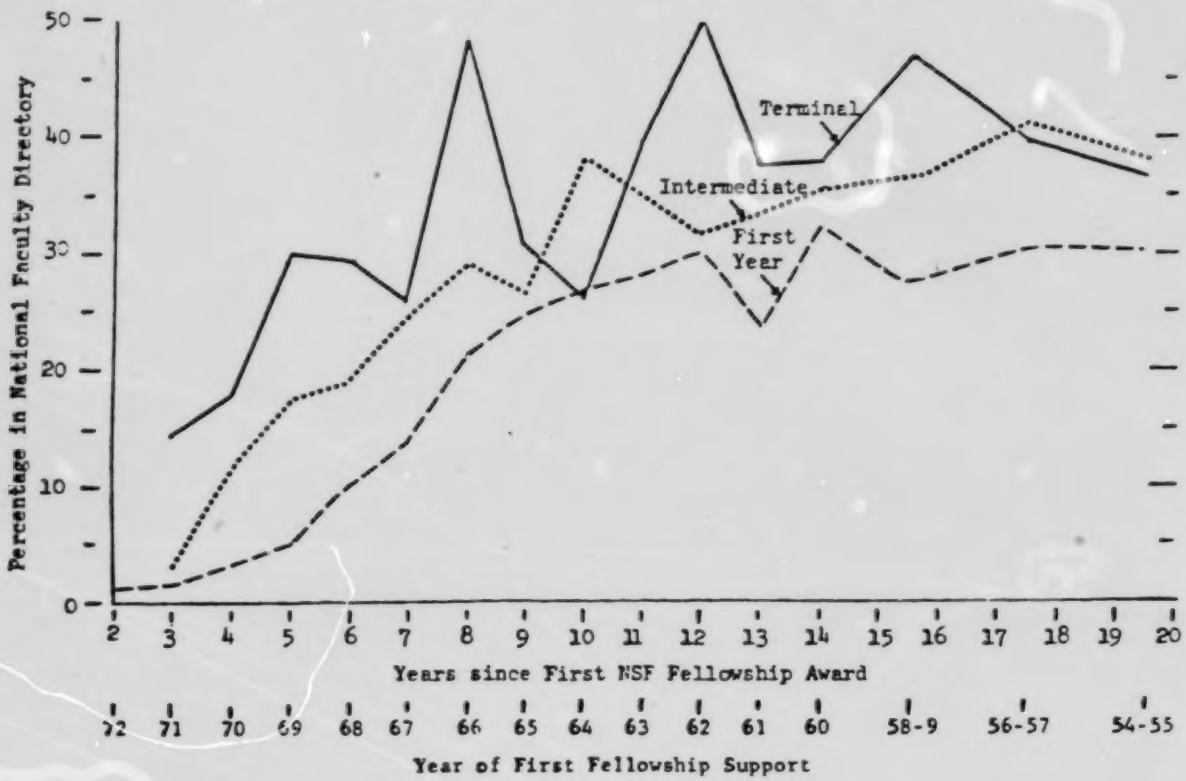
Figure 2 shows graphically the time trends in award of NSF postdoctoral fellowships, by level of award. Because it was drawn from the data of Appendix 2, it also provides more detailed cohorts than are provided in Table 8. The horizontal axis is interpreted both in terms of cohort years and in years since first award, to facilitate understanding.

## Attainment of Faculty Status

For those NSF Fellows who chose to enter academic employment, the most comprehensive information on faculty status comes from the National Faculty Directory (NFD) of 1975. Judging by this criterion, about 30% of the Terminal level Fellows were on college or university faculties in the United States within five years of first award. This percentage rises with the passage of time, as shown in Figure 3, but fluctuates rather widely, partly because of the small numbers of cases, but more than would be expected on the basis of random variations. For Fellows at the Intermediate level, where the numbers are larger, the curve is somewhat more regular. It reaches the 30% level about 8 years after the first award, and climbs another 10 percentage points, to 40%, or the equivalent of the Terminal level, about 18 years after the first award of a Fellowship. The curve for the First Year Fellows is rather smooth, and is asymptotic to 30% 12 years after the first award--never reaching the level of the Intermediate

Figure 3

Percentage of NSF Fellows at Each Level* Attaining Faculty Status, as Shown by Inclusion in the 1975 National Faculty Directory


Percentage in National Faculty Directory
50
40
30
20
10
0
Terminal
Intermediate
First Year
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Years since First NSF Fellowship Award
72 71 70 69 68 67 66 65 64 63 62 61 60 58-9 56-57 54-55
Year of First Fellowship Support

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

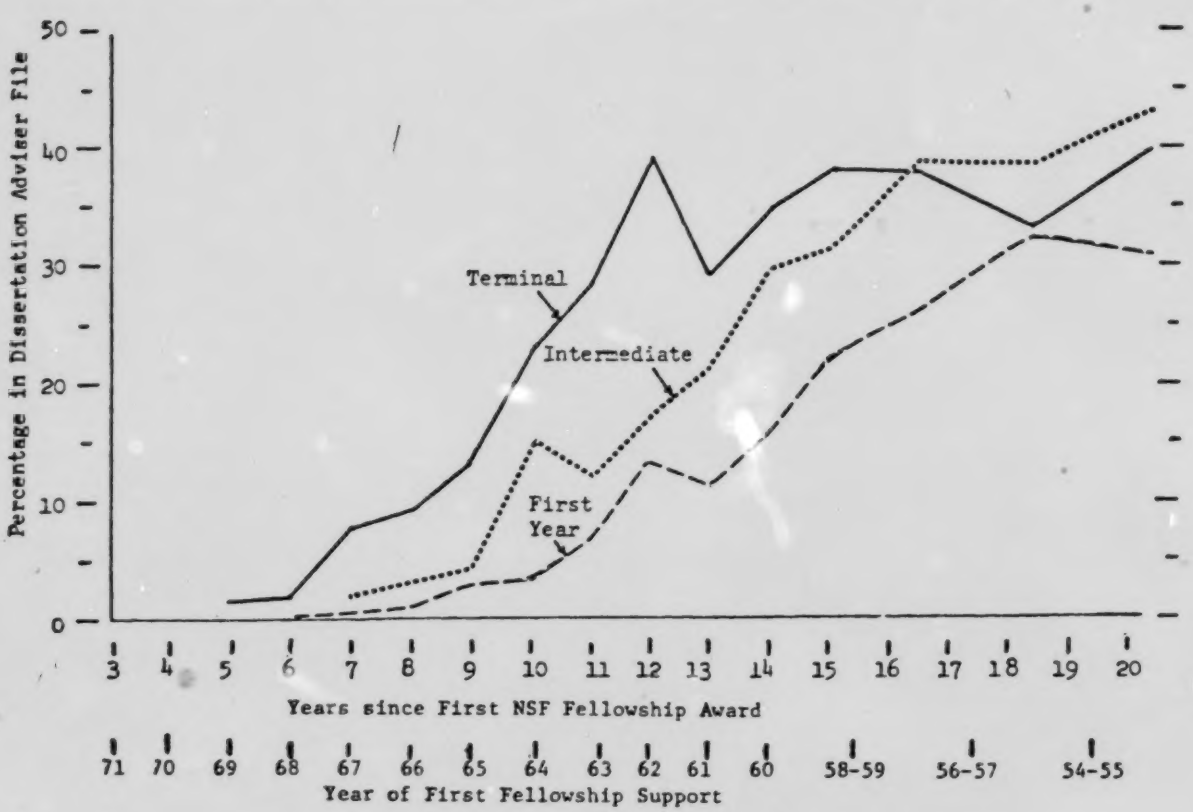
or Terminal Fellows. It is reasonable to note that by the time large numbers of the First-Year Fellows attained the doctorate, the number of opportunities for faculty positions was decreasing, and no upward swing has been noted in recent years. It is also true, of course, that a smaller proportion of the First-Year Fellows have attained the doctorate, as shown in Table 1 and Figure 1. Table 9 presents the faculty data by sex, by cohort, and by field of Fellowship.

## Attaining Dissertation Adviser Status

For Fellows on university faculties, a further criterion of career achievement is that of becoming the dissertation adviser of a PhD candidate. It takes time, of course, for these candidates to attain the doctorate, so the

Figure 4

Attainment of Dissertation Adviser Status by NSF Fellows, by Level*


Percentage in Dissertation Adviser File
50
40
30
20
10
0
Terminal
Intermediate
First Year
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Years since First NSF Fellowship Award
71 70 69 68 67 66 65 64 63 62 61 60 58-59 56-57 54-55
Year of First Fellowship Support

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

Table 9

Proportion of NSF Fellows Attaining Faculty Status, as Shown by the 1975 National Faculty Directory

| Field of Application | | Men | | | | | Women | | | | | Both Sexes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total |
| Mathematics | N* | 516 | 743 | 691 | 64 | 2014 | 34 | 55 | 70 | 1 | 160 | 550 | 798 | 761 | 65 | 2174 |
| | % | 42.4 | 41.6 | 12.2 | | 30.4 | 20.6 | 20.0 | 5.7 | | 13.8 | 41.1 | 40.1 | 11.6 | | 29.2 |
| Physics | N | 987 | 643 | 454 | 36 | 2120 | 19 | 14 | 14 | 1 | 48 | 1006 | 657 | 468 | 37 | 2168 |
| | % | 30.4 | 24.6 | 5.5 | 5.6 | 22.9 | 10.5 | 21.4 | 7.1 | | 12.5 | 30.0 | 24.5 | 5.6 | 5.4 | 22.6 |
| Chemistry | N | 907 | 510 | 393 | 34 | 1844 | 72 | 37 | 44 | 5 | 158 | 979 | 547 | 437 | 39 | 2002 |
| | % | 30.0 | 28.8 | 7.9 | | 24.4 | 9.7 | 18.9 | 11.4 | | 12.0 | 28.5 | 28.2 | 8.2 | | 23.4 |
| Geosciences | N | 274 | 159 | 137 | 18 | 588 | 9 | 9 | 10 | 4 | 32 | 283 | 168 | 147 | 22 | 620 |
| | % | 32.5 | 29.6 | 10.9 | | 25.7 | 22.2 | | | | 6.3 | 32.2 | 28.0 | 10.2 | | 24.7 |
| Engineering | N | 748 | 627 | 472 | 85 | 1932 | 1 | 9 | 7 | 3 | 20 | 749 | 636 | 479 | 88 | 1952 |
| | % | 21.5 | 12.3 | 6.1 | 3.5 | 14.0 | | 11.1 | | | 5.0 | 21.5 | 12.3 | 6.1 | 3.4 | 13.9 |
| EMP Total | N | 3432 | 2682 | 2147 | 237 | 8498 | 135 | 124 | 145 | 14 | 418 | 3567 | 2806 | 2292 | 251 | 8916 |
| | % | 30.3 | 27.5 | 8.6 | 2.1 | 23.2 | 13.3 | 17.7 | 6.9 | | 12.0 | 29.7 | 27.1 | 8.5 | 2.0 | 22.6 |
| Biosciences | N | 788 | 469 | 492 | 79 | 1828 | 207 | 201 | 225 | 44 | 677 | 995 | 670 | 717 | 123 | 2505 |
| | % | 45.1 | 35.6 | 10.4 | 1.3 | 31.4 | 16.4 | 12.9 | 1.3 | | 9.3 | 39.1 | 28.8 | 7.5 | .8 | 25.4 |
| Psychology | N | 98 | 143 | 132 | 31 | 404 | 43 | 50 | 90 | 16 | 199 | 141 | 193 | 222 | 47 | 603 |
| | % | 41.8 | 44.1 | 15.9 | | 30.9 | 16.3 | 22.0 | 12.2 | | 14.6 | 34.0 | 38.3 | 14.4 | | 25.5 |
| Soc Sci & Oth | N | 98 | 329 | 446 | 83 | 956 | 28 | 63 | 177 | 30 | 298 | 126 | 392 | 623 | 113 | 1254 |
| | % | 46.9 | 38.9 | 18.6 | | 26.9 | 32.1 | 19.0 | 13.6 | | 15.1 | 43.7 | 35.7 | 17.2 | | 24.1 |
| Bio/Beh Total | N | 984 | 941 | 1070 | 193 | 3188 | 278 | 314 | 492 | 90 | 1174 | 1262 | 1255 | 1562 | 283 | 4362 |
| | % | 44.9 | 38.0 | 14.5 | .5 | 30.0 | 18.0 | 15.6 | 7.7 | | 11.7 | 39.0 | 32.4 | 12.4 | .4 | 25.1 |
| GRAND TOTAL | N | 4416 | 3623 | 3217 | 430 | 11686 | 413 | 438 | 637 | 104 | 1592 | 4829 | 4061 | 3854 | 534 | 13278 |
| | % | 33.6 | 30.3 | 10.5 | 1.4 | 25.0 | 16.5 | 16.2 | 7.5 | | 11.7 | 32.1 | 28.7 | 10.0 | 1.1 | 23.4 |

* N means number of Fellows; % means percentage of these N in National Faculty Directory.

SOURCE: NRC, Commission on Human Resources

Table 10

Attainment of Dissertation Adviser Status by NSF Fellows, by Cohort of First Award, Sex, and Field

| Field of Application | | Men | | | | | Women | | | | | Both Sexes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total |
| Mathematics | N* | 516 | 743 | 691 | 64 | 2014 | 34 | 55 | 70 | 1 | 160 | 550 | 798 | 761 | 65 | 2174 |
| | % | 36.2 | 11.2 | .9 | | 13.7 | 5.9 | 1.8 | | | 1.9 | 34.4 | 10.5 | .8 | | 12.8 |
| Physics | N | 987 | 643 | 454 | 36 | 2120 | 19 | 14 | 14 | 1 | 48 | 1006 | 657 | 468 | 37 | 2168 |
| | % | 35.2 | 7.8 | | | 18.7 | 10.5 | 7.1 | | | 6.3 | 34.7 | 7.8 | | | 18.5 |
| Chemistry | N | 907 | 510 | 393 | 34 | 1844 | 72 | 37 | 44 | 5 | 158 | 979 | 547 | 437 | 39 | 2002 |
| | % | 32.7 | 15.3 | | | 20.3 | | 2.7 | | | .6 | 30.3 | 14.4 | | | 18.8 |
| Geosciences | N | 274 | 159 | 137 | 18 | 588 | 9 | 9 | 10 | 4 | 32 | 283 | 168 | 147 | 22 | 620 |
| | % | 27.0 | 7.5 | .7 | | 14.8 | | | | | | 26.1 | 7.1 | .7 | | 14.0 |
| Engineering | N | 748 | 627 | 472 | 85 | 1932 | 1 | 9 | 7 | 3 | 20 | 749 | 636 | 479 | 88 | 1952 |
| | % | 22.6 | 7.5 | 1.7 | | 11.6 | | | | | | 22.6 | 7.4 | 1.7 | | 11.5 |
| EMP Total | N | 3432 | 2682 | 2147 | 237 | 8498 | 135 | 124 | 145 | 14 | 418 | 3567 | 2806 | 2292 | 251 | 8916 |
| | % | 31.3 | 10.1 | .7 | | 16.0 | 3.0 | 2.4 | | | 1.7 | 30.2 | 9.7 | .7 | | 15.3 |
| Biosciences | N | 788 | 469 | 492 | 79 | 1828 | 207 | 201 | 225 | 44 | 677 | 995 | 670 | 717 | 123 | 2505 |
| | % | 42.6 | 9.8 | .8 | | 21.1 | 5.3 | .5 | | | 1.8 | 34.9 | 7.0 | .6 | | 15.9 |
| Psychology | N | 98 | 143 | 132 | 31 | 404 | 43 | 50 | 90 | 16 | 199 | 141 | 193 | 222 | 47 | 603 |
| | % | 44.9 | 22.4 | 3.0 | | 19.8 | 9.3 | 2.0 | | | 2.5 | 34.0 | 17.1 | 1.8 | | 14.1 |
| Soc Sci & Oth | N | 98 | 329 | 446 | 83 | 956 | 28 | 63 | 177 | 30 | 298 | 126 | 392 | 623 | 113 | 1254 |
| | % | 41.8 | 14.0 | 1.6 | | 9.8 | 3.6 | 6.3 | | | 1.7 | 33.3 | 12.8 | 1.1 | | 7.9 |
| Bio/Beh Total | N | 984 | 941 | 1070 | 193 | 3188 | 278 | 314 | 492 | 90 | 1174 | 1262 | 1255 | 1562 | 283 | 4362 |
| | % | 42.8 | 13.2 | 1.4 | | 17.6 | 5.8 | 1.9 | | | 1.9 | 34.6 | 10.4 | 1.0 | | 13.3 |
| GRAND TOTAL | N | 4416 | 3623 | 3217 | 430 | 11686 | 413 | 438 | 637 | 104 | 1592 | 4829 | 4061 | 3854 | 534 | 13278 |
| | % | 33.9 | 10.9 | .9 | | 16.4 | 4.8 | 2.1 | | | 1.8 | 31.4 | 9.9 | .8 | | 14.7 |

* N means number of Fellows; % means percentage of these N in Dissertation Adviser File.

SOURCE: NRC, Commission on Human Resources

criterion available to use has a built-in time lag. Table 10 shows the proportion of NSF Fellows who have been the advisers of PhD's graduating up to and including 1974. Figure 4 shows graphically, by level of award, the rate at which the NSF Fellows attain the criterion of inclusion in the CHR Dissertation Adviser File. This figure is based on the data of Appendix 4, where data are available by the same detailed cohorts as were used for Figure 3 in presenting the faculty status data.

Figure 4, like Figure 3, shows the time axis in terms of years since first award, as well as by cohort of first award. Approximately 40% of the Terminal awardees have had advisees who graduated within 11 years after the first award to a Terminal Fellow, and this proportion averages around 35% in the later years, although it fluctuates somewhat, apparently at random because of the limited number of cases. The same percentage level is attained by the Intermediate Fellows 15 years after the first award. For the First-year Fellows, the time lapse is about 18 years before the curve becomes asymptotic at a level about 10 percentage points lower--i.e. at about 30%. Perhaps a longer-term follow-up might show a rise in this proportion, but the time scale available at present does not allow reliable statistics for a significantly longer period.

## Academic Milieu Before and After the Doctorate

Most NSF Fellows enjoy the option of taking their fellowships at the university of their choice. One of the results of the exercise of this option is that a large proportion take their graduate training in institutions of high prestige. These same institutions cannot possibly employ as many new PhD's as they graduate, hence the majority of their graduates must seek employment in institutions of lesser standing or outside the academic realm entirely. One way of measuring the extent of this shift is to use the Roose-Andersen ratings of the departments of doctoral training, and of later employment.* In the present tabulations, the major emphasis is on inclusion of the departments within the "Roose-Andersen rated" category. For those within this category, the mean and standard deviation of the Roose-Andersen ratings

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* See A RATING OF GRADUATE PROGRAMS, published by The American Council on Education, 1970. These ratings represent a summary of the assessments provided by 4000 faculty members in 37 disciplines at 131 major institutions. In the Roose-Andersen scale, 5.00 is the highest possible score; 4.01-5.00 means "Distinguished"; 3.01-4.00 means "Strong"; 2.51-3.00 means "Good"; and 2.00-2.50 means "Adequate Plus".

Table 11A

Roose-Andersen Ratings of Department of PhD, by Level and Cohort of Award, 1952-1972 NSF Graduate Fellows, Both Sexes and All Fields Combined

| Cohort of Award ⇨ | | Level of Fellowship Award: First Year 1952-1966 | First Year 1967-1972 | First Year Total | Intermediate 1952-1966 | Intermediate 1967-1972 | Intermediate Total | Terminal 1952-1966 | Terminal 1967-1972 | Terminal Total | Total, All Levels 1952-1966 | Total, All Levels 1967-1972 | Total, All Levels Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Rated Departments | N | 3998 | 1131 | 5129 | 2260 | 585 | 2845 | 923 | 249 | 1172 | 7181 | 1965 | 9146 |
| | % | 99.1 | 98.5 | 99.0 | 99.3 | 95.9 | 98.6 | 99.4 | 96.5 | 98.7 | 99.2 | 97.5 | 98.8 |
| Unrated Departments | N | 36 | 17 | 53 | 16 | 25 | 41 | 6 | 9 | 15 | 58 | 51 | 109 |
| | % | .9 | 1.5 | 1.0 | .7 | 4.1 | 1.4 | .6 | 3.5 | 1.3 | .8 | 2.5 | 1.2 |
| Grand Total | N | 4034 | 1148 | 5182 | 2276 | 610 | 2886 | 929 | 258 | 1187 | 7239 | 2016 | 9255 |
| | % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Mean Rating** of Departments | | 4.02 | 4.12 | 4.04 | 3.74 | 3.75 | 3.74 | 3.57 | 3.44 | 3.54 | 3.87 | 3.92 | 3.88 |
| S.D. of Rating** of Departments | | .75 | .68 | .74 | .79 | .78 | .79 | .80 | .79 | .80 | .79 | .77 | .78 |

Table 11B

Roose-Andersen Ratings of Departments of Employment, from National Faculty Directory, 1952-1972 NSF Graduate Fellows by Level* and Cohort of Award

| Cohort of Award ⇨ | | Level of Fellowship Award: First Year 1952-1966 | First Year 1967-1972 | First Year Total | Intermediate 1952-1966 | Intermediate 1967-1972 | Intermediate Total | Terminal 1952-1966 | Terminal 1967-1972 | Terminal Total | Total, All Levels 1952-1966 | Total, All Levels 1967-1972 | Total, All Levels Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Rated Departments | N | 857 | 107 | 964 | 567 | 69 | 636 | 240 | 44 | 284 | 1664 | 220 | 1884 |
| | % | 21.2 | 9.3 | 18.6 | 24.9 | 11.3 | 22.0 | 25.8 | 17.1 | 23.9 | 23.0 | 10.9 | 20.4 |
| Unrated Departments | N | 517 | 58 | 575 | 298 | 56 | 354 | 139 | 25 | 164 | 954 | 139 | 1093 |
| | % | 12.8 | 5.1 | 11.1 | 13.1 | 9.2 | 12.3 | 15.0 | 9.7 | 13.8 | 13.2 | 6.9 | 11.8 |
| Total Academic | N | 1374 | 165 | 1539 | 865 | 125 | 990 | 379 | 69 | 448 | 2618 | 359 | 2977 |
| | % | 34.1 | 14.4 | 29.7 | 38.0 | 20.5 | 34.3 | 40.8 | 26.7 | 37.7 | 36.2 | 17.8 | 32.2 |
| Nonacad. & Unknown | N | 2660 | 983 | 3643 | 1411 | 485 | 1896 | 550 | 189 | 739 | 4621 | 1657 | 6278 |
| | % | 65.9 | 85.6 | 70.3 | 62.0 | 79.5 | 65.7 | 59.2 | 73.3 | 62.3 | 63.8 | 82.2 | 67.8 |
| Grand Total | N | 4034 | 1148 | 5182 | 2276 | 610 | 2886 | 929 | 258 | 1187 | 7239 | 2016 | 9255 |
| | % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Mean Rating** of Departments | | 3.07 | 3.11 | 3.07 | 2.93 | 2.98 | 2.94 | 2.90 | 2.89 | 2.90 | 3.00 | 3.03 | 3.00 |
| S.D. of Rating** of Departments | | .96 | 1.09 | .97 | .94 | .99 | .94 | .95 | .94 | .95 | .95 | 1.03 | .96 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

** Means and standard deviations calculated on basis of rated departments only.

SOURCE: NRC, Commission on Human Resources

are presented for the purpose of documenting the shift to unrated departments. It should be noted here that this use of the ratings does not imply acceptance of the ratings as measures of quality; they are prestige measures, and it is this characteristic of the departments of doctorate and of subsequent employment that is documented in Tables 11A and 11B, respectively.

Almost all of the NSF Fellows graduate from departments within the Roose-Andersen rated set; the mean departmental rating is above 4.0. When followed up through the National Faculty Directory, it is found, as shown in Table 11B, that only about 20% are employed in "R-A-rated" departments, and that the mean rating for these departments is about 3.0. The total known to be employed in academic settings, from the NFD tabulations, is slightly under one third of all NSF Fellows; about 12% are employed in departments outside the Roose-Andersen category, including, no doubt, some which are undergraduate departments only. Two thirds of the total are either in nonacademic settings, or their departments of employment are unknown. This is undoubtedly a lower bound figure, as individuals with ambiguous names were eliminated from the count, and the National Faculty Directory cannot be assumed to have complete and accurate coverage. Still, the trend from high-prestige institutions to elsewhere is quite apparent, and also quite inevitable.

## Awards of Research Grants

A criterion of career achievement based on peer judgment is award of grants in aid of research by NSF and NIH.* Data from both of these sources were obtained on tape, and combined for the present tabulations, shown in Table 12, by field of application, by sex, and by cohort of first award. It should be noted that this criterion is relevant primarily to the academically employed; those who go into industry cannot avail themselves of this source of funds and hence this criterion of career achievement. The results for both sexes combined are portrayed graphically in Figure 5, by level of award. (The data by level are given in Appendix 5.) The graphs in

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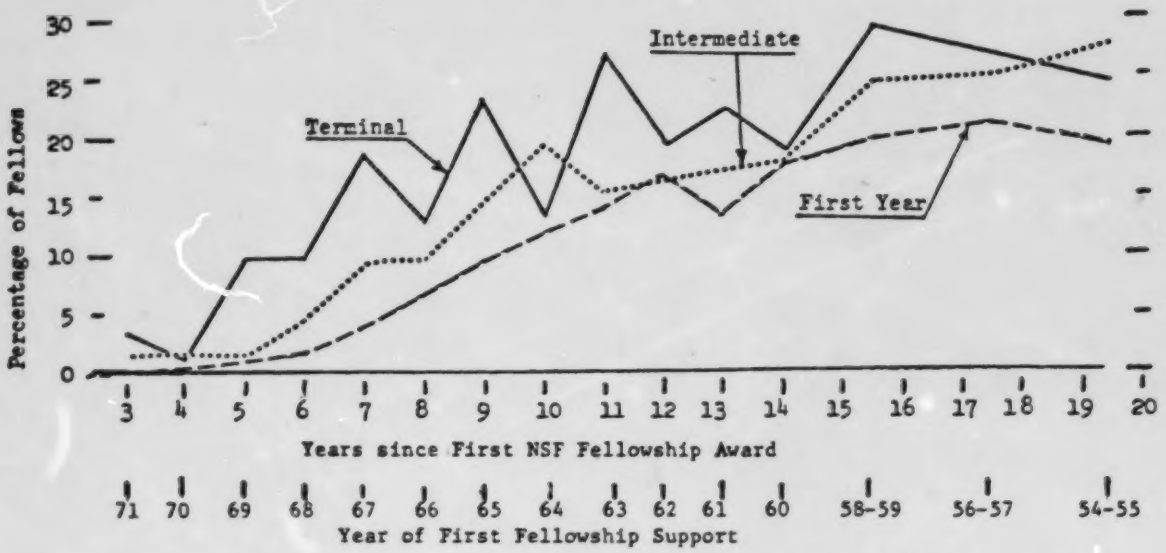
* The available record of NIH grants covered the years 1962 to 1971; the NSF grants covered the period 1967-1972.

Figure 5

Percentage of Predoctoral Fellows Winning Research Grants from NSF or NIH, by Level*, as a Function of Years since First Award




* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

Figure 5 show a rather steady rise for a period of 15 years after the first award for all three levels. In the case of Level 2 (Intermediate Fellowships) the curve continues to rise over a period of 20 years. However, in the case of both the intermediate and terminal levels of award, the number of cases for the early cohorts (more than 15 years after first award) is rather small, and the data points not highly reliable so that the apparent trends cannot be depended upon to represent a continuing trend (as for Level 2) or a reversal (as for Level 3).

In Table 12, although the data for women are scanty, they follow time trends that are similar to those for men, but at a much lower level. That is, research grants are awarded to women with a far lower frequency than they are awarded to men. The field and time trends are shown most reliably in the set of columns to the right, both sexes combined. There are field differences within the EMP group (from a high of 15.5% in geosciences to a low of

Table 12

Percentage of NSF Fellows Winning Research Grants from NSF or NIH,* by Cohort, Field, and Sex

| Field of Application | | Men | | | | | Women | | | | | Both Sexes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total | 1952-61 | 1962-66 | 1967-71 | 1972 | Total |
| Mathematics | N** | 516 | 743 | 691 | 64 | 2014 | 34 | 55 | 70 | 1 | 160 | 550 | 798 | 761 | 65 | 2174 |
| | % | 21.1 | 13.3 | 3.9 | | 11.7 | 5.9 | 5.5 | | | 3.1 | 20.2 | 12.8 | 3.5 | | 11.0 |
| Physics | N | 987 | 643 | 454 | 36 | 2120 | 19 | 14 | 14 | 1 | 48 | 1006 | 657 | 468 | 37 | 2168 |
| | % | 16.7 | 6.4 | 1.5 | | 10.0 | | | | | | 16.4 | 6.2 | 1.5 | | 9.8 |
| Chemistry | N | 907 | 510 | 393 | 34 | 1844 | 72 | 37 | 44 | 5 | 158 | 979 | 547 | 437 | 39 | 2002 |
| | % | 23.2 | 16.3 | 1.5 | | 16.2 | 2.8 | 2.7 | | | 1.9 | 21.7 | 15.4 | 1.4 | | 15.1 |
| Geosciences | N | 274 | 159 | 137 | 18 | 588 | 9 | 9 | 10 | 4 | 32 | 283 | 168 | 147 | 22 | 620 |
| | % | 20.4 | 20.8 | 4.4 | | 16.2 | | 11.1 | | | 3.1 | 19.8 | 20.2 | 4.1 | | 15.5 |
| Engineering | N | 748 | 627 | 472 | 85 | 1932 | 1 | 9 | 7 | 3 | 20 | 749 | 636 | 479 | 88 | 1952 |
| | % | 11.4 | 8.0 | 2.3 | | 7.6 | | | | | | 11.3 | 7.9 | 2.3 | | 7.5 |
| EMP Total | N | 3432 | 2682 | 2147 | 237 | 8498 | 135 | 124 | 145 | 14 | 418 | 3567 | 2806 | 2292 | 251 | 8916 |
| | % | 18.2 | 11.4 | 2.7 | | 11.6 | 3.0 | 4.0 | | | 2.2 | 17.6 | 11.1 | 2.5 | | 11.2 |
| Biosciences | N | 788 | 469 | 492 | 79 | 1828 | 207 | 201 | 225 | 44 | 677 | 995 | 670 | 717 | 123 | 2505 |
| | % | 41.0 | 26.4 | 3.9 | | 25.5 | 11.1 | 5.0 | 1.3 | | 5.3 | 34.8 | 20.0 | 3.1 | | 20.0 |
| Psychology | N | 98 | 143 | 132 | 31 | 404 | 43 | 50 | 90 | 16 | 199 | 141 | 193 | 222 | 47 | 603 |
| | % | 28.6 | 17.5 | 4.5 | | 14.6 | 11.6 | | 2.2 | | 3.5 | 23.4 | 13.0 | 3.6 | | 10.9 |
| Soc Sci & Oth | N | 98 | 329 | 446 | 83 | 956 | 28 | 63 | 177 | 30 | 298 | 126 | 392 | 623 | 113 | 1254 |
| | % | 31.6 | 10.6 | .9 | | 7.3 | 10.7 | 1.6 | 1.7 | | 2.3 | 27.0 | 9.2 | 1.1 | | 6.1 |
| Bio/Beh Total | N | 984 | 941 | 1070 | 193 | 3188 | 278 | 314 | 492 | 90 | 1174 | 1262 | 1255 | 1562 | 283 | 4362 |
| | % | 38.8 | 19.6 | 2.7 | | 18.7 | 11.2 | 3.5 | 1.6 | | 4.3 | 32.7 | 15.5 | 2.4 | | 14.8 |
| GRAND TOTAL | N | 4416 | 3623 | 3217 | 430 | 11686 | 413 | 438 | 637 | 104 | 1592 | 4829 | 4061 | 3854 | 534 | 13278 |
| | % | 22.8 | 13.5 | 2.7 | | 13.5 | 8.5 | 3.7 | 1.3 | | 3.7 | 21.6 | 12.5 | 2.4 | | 12.4 |

* The available record of NIH grants covered the years 1962 to 1971; the NSF grants covered the period 1967-1972.

** N means number of Fellows; % means percentage of these N with research grants.

SOURCE: NRC, Commission on Human Resources

7.5% in engineering) but the overall average is 11.2% for these fields, as compared with 20.0% in the life sciences, 10.9% in psychology, and 6.1% in the social sciences. Overall, for all fields and cohorts combined, the lower right-hand figure shows that 12.4% of the NSF Graduate Fellows were awarded research grants by the NIH and NSF combined. There is a strong time trend, as is to be expected, as these awards are cumulative, the older graduates having had more time to apply for and win awards, and because, with more research experience, they are able to present more convincing protocols for evaluation. In the oldest cohort, 21.6% won research grants; in the 1962-66 cohort the percentage was 12.5, in the 1967-71 cohort, 2.4; the 1972 awardees had not had time to apply during the period covered.

## Employment After the Doctorate

Extensive information, on a sampling basis, regarding the employment of those NSF Fellows who have earned PhD's is available from the surveys of the Roster of Doctoral Scientists and Engineers for 1973 and 1975. The data from this source include employment status in the follow-up years, and employer category, primary work activity, and data on salaries, for those employed. As will be seen, the data for both years are highly similar in the general levels of percentages and in patterns across fields; data for both years are given for the sake of completeness, and to give some idea of the stability of these data over time. For data on the numbers of NSF Fellows, and their response rates in the Comprehensive Roster samples of 1973, see Appendix 6. For comparable data regarding the 1975 survey, see Appendix 7.

The data reported in Tables 13 to 24 are similar in format, and the row categories are parallel in content, to those in the 1973 and 1975 Profile reports on the Comprehensive Roster surveys. The latter thus can form a basis of reference for consideration of the data of this report. It is to be expected that a number of differences between the NSF Fellows and the general population of PhD's would be found, because of the selection, and

self-selection, of NSF Fellows. However, no verbal comparisons will be attempted in this report, as it is not intended to be evaluative.

## Employment Status

The format of Table 13, which deals with employment status, will be described in some detail, as it will serve as a model for the following tables. The Fellows are sorted into columns based on field of fellowship award. In this respect, the fields differ from those in the 1973 and 1975 Profile reports, which are sorted by field of doctorate. However, as there was only a minimum of field-switching across the categories used here, the differences are not particularly important. In Table 13, the row categories refer to employment status: full-time employed, part-time employed, postdoctoral training, not employed and seeking employment, not employed and not seeking, and "other, and no report". It should be noted that there is not a strict comparability between the category "not employed and seeking employment" and the usual definition of "unemployment rate", because the data here are based on the entire population, including those not seeking employment and those whose employment status is unknown. If the latter categories were pro-rated, the correction would raise the unemployment rate shown here slightly, but not enough to bring it up to 1.0%. For purposes of comparison with the data for the generality of PhD's, the reader is referred to the 1976 CHR publication, Employment Status of PhD Scientists and Engineers, 1973 and 1975, by Maxfield, Ahern, and Spisak.

## From Sample to Population

A word of explanation is needed regarding the symbols N, WN, H, and V, which apply to the several lines under each row category. The symbol N means the actual number of respondents in the CR sample who were NSF Fellows. The symbol WN refers to the weighted number--the actual N multiplied by the weight designed to inflate the figures to approximately the original population. These weights were designed for the whole CR population, rather than the NSF sample, but are presumed to be a good approximation for this sub-sample. The percentages reported below the WN figure are based in the weighted numbers. The symbol H is for the horizontal percentages, V is for vertical percentages. A word should

Table 13

Employment Status in 1973 of NSF Graduate Fellows of 1952-1972

| Employment Status, 1973 | * | Field of Graduate Fellowship: Math | Phys | Chem | Earth | Engr | EMP TOTAL | Biosc | Psych | SocSc | BIO/BEH TOTAL | GRAND TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Employed Full-Time | N | 162 | 193 | 155 | 60 | 104 | 674 | 237 | 47 | 44 | 328 | 1002 |
| | WN | 1198 | 1575 | 1275 | 464 | 1029 | 5541 | 1392 | 406 | 308 | 2106 | 7647 |
| | H | 15.7 | 20.6 | 16.7 | 6.1 | 13.5 | 72.5 | 18.2 | 5.3 | 4.0 | 27.5 | 100.0 |
| | V | 91.4 | 88.7 | 86.6 | 94.9 | 93.0 | 90.0 | 83.3 | 84.8 | 86.0 | 84.0 | 88.3 |
| Employed Part-Time | N | 6 | 2 | 7 | 2 | 1 | 18 | 14 | 5 | 1 | 20 | 38 |
| | WN | 13 | 23 | 15 | 8 | 8 | 67 | 58 | 23 | 9 | 90 | 157 |
| | H | 8.3 | 14.6 | 9.6 | 5.1 | 5.1 | 42.7 | 36.9 | 14.6 | 5.7 | 57.3 | 100.0 |
| | V | 1.0 | 1.3 | 1.0 | 1.6 | .7 | 1.1 | 3.5 | 4.8 | 2.5 | 3.6 | 1.8 |
| Postdoctoral Appointment | N | 4 | 16 | 13 | 1 | | 34 | 25 | 1 | 3 | 29 | 63 |
| | WN | 31 | 121 | 89 | 1 | | 242 | 131 | 3 | 29 | 163 | 405 |
| | H | 7.7 | 29.9 | 22.0 | .2 | | 59.8 | 32.3 | .7 | 7.2 | 40.2 | 100.0 |
| | V | 2.4 | 6.8 | 6.0 | .2 | | 3.9 | 7.8 | .6 | 8.1 | 6.5 | 4.7 |
| Not Employed: Seeking Employment | N | 1 | 2 | 4 | 1 | 2 | 10 | 4 | | | 4 | 14 |
| | WN | 1 | 17 | 21 | 10 | 12 | 61 | 16 | | | 16 | 77 |
| | H | 1.3 | 22.1 | 27.3 | 13.0 | 15.6 | 79.2 | 20.8 | | | 20.8 | 100.0 |
| | V | .1 | 1.0 | 1.4 | 2.0 | 1.1 | 1.0 | 1.0 | | | .6 | .9 |
| Not Employed: Not Seeking Employment | N | 4 | 2 | 5 | | 3 | 14 | 5 | 2 | | 7 | 21 |
| | WN | 21 | 12 | 11 | | 18 | 62 | 21 | 21 | | 42 | 104 |
| | H | 20.2 | 11.5 | 10.6 | | 17.3 | 59.6 | 20.2 | 20.2 | | 40.4 | 100.0 |
| | V | 1.6 | .7 | .7 | | 1.6 | 1.0 | 1.3 | 4.4 | | 1.7 | 1.2 |
| Other, and No Report | N | 6 | 4 | 7 | 1 | 4 | 22 | 13 | 3 | 3 | 19 | 41 |
| | WN | 47 | 28 | 61 | 6 | 40 | 182 | 53 | 26 | 12 | 91 | 273 |
| | H | 17.2 | 10.3 | 22.3 | 2.2 | 14.7 | 66.7 | 19.4 | 9.5 | 4.4 | 33.3 | 100.0 |
| | V | 3.6 | 1.6 | 4.1 | 1.2 | 3.6 | 3.0 | 3.2 | 5.4 | 3.4 | 3.6 | 3.2 |
| Total, All Categories | N | 183 | 219 | 191 | 65 | 114 | 772 | 298 | 58 | 51 | 407 | 1179 |
| | WN | 1311 | 1776 | 1472 | 489 | 1107 | 6155 | 1671 | 479 | 358 | 2508 | 8663 |
| | H | 15.1 | 20.5 | 17.0 | 5.6 | 12.8 | 71.0 | 19.3 | 5.5 | 4.1 | 29.0 | 100.0 |
| | V | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* N means actual number of respondents; WN means weighted number (see text for explanation); H means horizontal percentage; V means vertical percentage.

SOURCE: NRC, Commission on Human Resources

Table 14

Employment Status in 1975 of NSF Graduate Fellows of 1952-1972

| Employment Status, 1975 | * | Field of Graduate Fellowship: Math | Phys | Chem | Earth | Engr | EMP TOTAL | Biosc | Psych | SocSc | BIO/BEH TOTAL | GRAND TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Employed Full-Time | N | 185 | 197 | 177 | 61 | 112 | 732 | 264 | 53 | 59 | 376 | 1108 |
| | WN | 1325 | 1596 | 1398 | 451 | 1112 | 5882 | 1566 | 439 | 507 | 2512 | 8394 |
| | H | 15.8 | 19.0 | 16.7 | 5.4 | 13.2 | 70.1 | 18.7 | 5.2 | 6.0 | 29.9 | 100.0 |
| | V | 95.3 | 86.0 | 93.0 | 96.6 | 91.7 | 91.5 | 85.2 | 87.3 | 95.5 | 87.4 | 90.2 |
| Employed Part-Time | N | 9 | 1 | 4 | 2 | 1 | 17 | 16 | 5 | 1 | 22 | 39 |
| | WN | 45 | 1 | 17 | 15 | 11 | 89 | 54 | 28 | 3 | 85 | 174 |
| | H | 25.9 | .6 | 9.8 | 8.6 | 6.3 | 51.1 | 31.0 | 16.1 | 1.7 | 48.9 | 100.0 |
| | V | 3.2 | .1 | 1.1 | 3.2 | .9 | 1.4 | 2.9 | 5.6 | .6 | 3.0 | 1.9 |
| Postdoctoral Appointment | N | 2 | 26 | 10 | | 4 | 42 | 16 | 2 | 2 | 20 | 62 |
| | WN | 12 | 203 | 66 | | 63 | 344 | 102 | 22 | 9 | 133 | 477 |
| | H | 2.5 | 42.6 | 13.8 | | 13.2 | 72.1 | 21.4 | 4.6 | 1.9 | 27.9 | 100.0 |
| | V | .9 | 10.9 | 4.4 | | 5.2 | 5.4 | 5.5 | 4.4 | 1.7 | 4.6 | 5.1 |
| Not Employed: Seeking Employment | N | 1 | 6 | 2 | 1 | 1 | 11 | 8 | 1 | 3 | 12 | 23 |
| | WN | 6 | 32 | 13 | 1 | 9 | 61 | 43 | 2 | 12 | 57 | 118 |
| | H | 5.1 | 27.1 | 11.0 | .8 | 7.6 | 51.7 | 36.4 | 1.7 | 10.2 | 48.3 | 100.0 |
| | V | .4 | 1.7 | .9 | .2 | .7 | .9 | 2.3 | .4 | 2.3 | 2.0 | 1.3 |
| Not Employed: Not Seeking Employment | N | 2 | 2 | 4 | | 2 | 10 | 12 | 1 | | 13 | 23 |
| | WN | 3 | 13 | 9 | | 10 | 35 | 56 | 12 | | 68 | 103 |
| | H | 2.9 | 12.6 | 8.7 | | 9.7 | 34.0 | 54.4 | 11.7 | | 66.0 | 100.0 |
| | V | .2 | .7 | .6 | | .8 | .5 | 3.0 | 2.4 | | 2.4 | 1.1 |
| Other, and No Report | N | | 1 | | | 1 | 2 | 3 | | | 3 | 5 |
| | WN | | 11 | | | 7 | 18 | 18 | | | 18 | 36 |
| | H | | 30.6 | | | 19.4 | 50.0 | 50.0 | | | 50.0 | 100.0 |
| | V | | .6 | | | .6 | .3 | 1.0 | | | .6 | .4 |
| Total, All Categories | N | 199 | 233 | 197 | 64 | 121 | 814 | 319 | 62 | 65 | 446 | 1260 |
| | WN | 1391 | 1856 | 1503 | 467 | 1212 | 6429 | 1839 | 503 | 531 | 2873 | 9302 |
| | H | 15.0 | 20.0 | 16.2 | 5.0 | 13.0 | 69.1 | 19.8 | 5.4 | 5.7 | 30.9 | 100.0 |
| | V | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* N means actual number of respondents; WN means weighted number (see text for explanation); H means horizontal percentage; V means vertical percentage.

SOURCE: NRC, Commission on Human Resources

# Table 15

## Employment Status of U.S. Doctoral Scientists and Engineers in 1973 and 1975

1930-72 UNITED STATES DOCTORAL SCIENTISTS AND ENGINEERS

15 A EMPLOYMENT STATUS BY FIELD OF DOCTORATE — 1973

| YEAR OF DOCTORATE AND 1973 EMPLOYMENT STATUS | | FIELD OF DOCTORATE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1930-72 DOCTORATES | ALL FIELDS | MATH | PHYS | CHEM | EARTH | ENGIN | BIOSC | PSYCH | SOCSC | NONSC | UNK |
| TOTAL POPULATION N | 244923 | 13571 | 22340 | 39270 | 7595 | 35067 | 61111 | 24483 | 32353 | 8965 | 199 |
| % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| EMPLOYED FULL-TIME % | | | | | | | | | | | |
| SCIENCE | 82.7 | 89.2 | 83.5 | 80.1 | 88.1 | 90.2 | 81.8 | 79.5 | 76.6 | 84.3 | 75.9 |
| NON-SCIENCE | 4.6 | 2.2 | 3.9 | 5.6 | 2.3 | 3.7 | 3.0 | 4.9 | 10.3 | .0 | 4.6 |
| EMPLOYED PART-TIME % | | | | | | | | | | | |
| SCIENCE | 2.6 | 1.8 | 2.1 | 2.1 | 2.1 | 1.3 | 2.7 | 5.8 | 2.6 | 3.7 | 5.1 |
| NON-SCIENCE | .3 | .1 | .5 | .5 | .2 | .1 | .3 | .3 | .5 | .0 | 1.0 |
| POSTDOCTORAL % | 2.4 | .7 | 4.1 | 3.8 | 1.9 | .8 | 4.2 | 1.1 | .8 | .5 | 1.0 |
| NOT EMPLOYED % | | | | | | | | | | | |
| SEEKING | 1.1 | 1.4 | 1.4 | 1.6 | .7 | .8 | 1.0 | 1.1 | .8 | .8 | .0 |
| NOT SEEKING | .6 | .6 | .5 | .8 | .1 | .5 | .9 | .6 | .5 | .4 | .6 |
| RETIRED % | 2.6 | 2.0 | 2.1 | 3.4 | 2.0 | 1.0 | 3.0 | 4.1 | 3.1 | 4.6 | 3.6 |
| OTHER/NO REPORT % | 3.2 | 2.4 | 2.0 | 2.4 | 2.7 | 1.9 | 3.4 | 4.7 | 4.5 | 5.8 | 6.7 |

15 B Employment Status of Doctoral Scientists and Engineers, 1975

A. Individuals Receiving Doctorates During 1930-1974

| 1975 Employment Status | All Fields | Field of Doctorate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Math | Phys | Chem | Earth | Engr | Biosc | Psych | SocSc | Nonsc | No Report |
| Total Population N | 279,351 | 15,989 | 25,085 | 43,248 | 8,813 | 41,228 | 70,577 | 29,435 | 39,273 | 5,519 | 184 |
| Employed Full-Time | | | | | | | | | | | |
| Science | 83.7% | 89.4% | 83.2% | 80.8% | 87.8% | 91.3% | 81.8% | 83.5% | 79.3% | 85.0% | 97.3% |
| Nonscience | 4.7 | 3.5 | 4.4 | 5.8 | 3.0 | 3.6 | 2.4 | 4.3 | 10.5 | .0 | .0 |
| Employed Part-Time | | | | | | | | | | | |
| Science | 2.4 | 1.9 | 1.6 | 1.8 | 3.3 | 1.2 | 2.5 | 5.6 | 2.3 | 3.8 | .0 |
| Nonscience | .3 | .2 | .4 | .5 | .2 | .1 | .2 | .4 | .6 | .0 | .0 |
| Postdoctoral | 3.0 | .7 | 4.7 | 4.1 | 1.4 | .9 | 5.6 | 1.5 | .9 | .2 | .0 |
| Not Employed | | | | | | | | | | | |
| Seeking Employment | .9 | .6 | 1.5 | 1.0 | 1.0 | .7 | 1.0 | .8 | .9 | .4 | .0 |
| Not Seeking | .9 | .7 | 1.0 | 1.0 | .3 | .4 | 1.4 | .9 | .5 | .4 | .0 |
| Retired | 3.7 | 2.9 | 2.9 | 4.6 | 2.9 | 1.5 | 4.6 | 2.6 | 4.4 | 9.6 | 2.7 |
| Other | .2 | .1 | .2 | .2 | .0 | .1 | .2 | .1 | .2 | .3 | .0 |
| No Report | .2 | .1 | .1 | .1 | .1 | .1 | .2 | .3 | .3 | .2 | .0 |

Sources: DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES 1973 (1975) PROFILE, Commission on Human Resources, NRC

be said about the reliability of these percentages. They are only as reliable as would be indicated by the original N's, not the WN. Thus they are not high for those rows where the data are sparse. In the case of part-time employment, for example, the N's range from 1 to 14 for individual fields; it is apparent that in many of these fields even a single additional case would greatly change the percentage.

Examination of the data of Table 13 shows that the full-time employed are 88.3% of the NSF Fellows in this sample, varying by field from a low of 83.3% in the life sciences to a high of 94.9% in the earth sciences. Part-time employment is low, with an overall total of 1.8%, and a high of 4.8% in psychology (not a highly reliable figure). Postdoctoral study occupies 63 individuals, or 4.7% of the total; the percentages within the several fields vary greatly, but in only a few fields is the number high enough for reasonable reliability (e.g. physics with 6.8%, chemistry with 6.0%, and life sciences with 7.8%). The proportion not employed and seeking employment is very low, as mentioned above--0.9%, and varying slightly across the several fields, but with N's too small to make field differences meaningful. The category of not employed and not seeking employment is slightly larger, 1.2% for the total, again varying across fields, but without reliable differences. None of the NSF Fellows have retired, a not unexpected finding because most of them are still rather young. The final row, "other, and no report" accounts for those who did not respond to this item on the questionnaire, or whose responses could not be coded into the above categories. This number was rather small (41 cases or 3.2%). As will be seen by reference to Table 14, this number is vanishingly small in 1975, presumably because experience with the 1973 questionnaire resulted in improved procedures for questionnairing and coding. The data of Table 14 follow the same pattern as described above, with minor variations that are due to variations to questionnaire procedure, respondent differences, and changing times.

As mentioned earlier, the data in Tables 13 and 14 were set up to be parallel in format to those in the Comprehensive Roster Profile reports. Table 15 presents data from the 1973 and 1975 Profile reports for the purpose of comparison with the data on former NSF Fellows. There are a few differences, based on graduation cohorts, as the total PhD population data include people

who graduated as early as 1930, although the numbers for the early years were relatively small. There is also one difference in the employment status categories, based principally on the fact that the NSF Fellows are relatively young. None of them were within the "retired" category, which claims about 2.6% of the 1973 respondents and 3.7% of the 1975 respondents, as given in the Profile reports.

## Employer Categories

The categories of employers of NSF Fellows, as of 1973, are shown in Table 16, again in terms of the fields of fellowship support. Most of these former Fellows are employed in academe--an overall percentage of 67.4, varying from a high of 92.9% in mathematics to a low of 38.2% in engineering. It will be noted that this percentage is far higher than that provided by Table 9, from the National Faculty Directory data. Probably the difference is to be accounted for largely in terms of a more accurate identification of the individuals involved; in the case of the Comprehensive Roster, mis-identification is practically zero, as all of the records, with necessary identifying data, were maintained in the CHR. The difference does not in any way invalidate the principal finding derived from the NFD comparison, which was concerned with the shifting from institutions and departments of doctorate education to departments of employment after graduation. The category "educational institutions" include elementary schools and high schools, but in actuality very few, if any, NSF Fellows are employed in educational institutions other than colleges and universities. The Federal Government employs 6.1% of the NSF Fellows, with percentage variations by field that are not highly reliable because of the sampling errors inherent in small numbers of cases, although those fields with 10 or more in Federal employment have reasonably reliable percentages. State and Local governments employ very few--only 1% for all fields combined. Hospitals and clinics employ still fewer, but in the fields to be expected --chemistry, life sciences, and psychology. Non-profit organizations employ 3.6%, while business and industry employs almost 20%, concentrated in the EMP fields. The category "other and no report" is rather small for this item, and, as will be seen by reference to Table 17, which reports the 1975 data, almost vanishes.* The pattern of employer categories is very similar in

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* Questionnaire and coding improvements largely account for this change. Many self-employed were thereby moved to the business/industry category, accounting for perhaps half of the business/industry increase from 1973 to 1975.

Employer Categories in 1973 of NSF Graduate Fellows of 1952-1972

| 1973 Employer Categories [1] | [2] | Field of Graduate Fellowship: Math | Phys | Chem | Earth | Engr | EMP TOTAL | Biosc | Psych | SocSc | BIO/BEH TOTAL | GRAND TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Educational Institutions | N | 157 | 120 | 97 | 35 | 42 | 451 | 197 | 45 | 38 | 280 | 731 |
| | WN | 1126 | 978 | 750 | 253 | 396 | 3503 | 1123 | 379 | 255 | 1757 | 5260 |
| | H | 21.4 | 18.6 | 14.3 | 4.8 | 7.5 | 66.6 | 21.3 | 7.2 | 4.8 | 33.4 | 100.0 |
| | V | 92.9 | 61.2 | 58.1 | 53.6 | 38.2 | 62.4 | 77.4 | 87.9 | 80.4 | 79.9 | 67.4 |
| Federal Government | N | 1 | 14 | 9 | 10 | 5 | 39 | 17 | 1 | 1 | 19 | 58 |
| | WN | 11 | 120 | 71 | 78 | 58 | 338 | 116 | 10 | 12 | 138 | 476 |
| | H | 2.3 | 25.2 | 14.9 | 16.4 | 12.2 | 71.0 | 24.4 | 2.1 | 2.5 | 29.0 | 100.0 |
| | V | .9 | 7.5 | 5.5 | 16.5 | 5.6 | 6.0 | 8.0 | 2.3 | 3.8 | 6.3 | 6.1 |
| State and Local Government | N | 1 | 2 | 1 | 4 | | 8 | 3 | | | 3 | 11 |
| | WN | 10 | 14 | 7 | 31 | | 62 | 16 | | | 16 | 78 |
| | H | 12.8 | 17.9 | 9.0 | 39.7 | | 79.5 | 20.5 | | | 20.5 | 100.0 |
| | V | .8 | .9 | .5 | 6.6 | | 1.1 | 1.1 | | | .7 | 1.0 |
| Hospitals and Clinics | N | | | 1 | | | 1 | 3 | 1 | | 4 | 5 |
| | WN | | | 3 | | | 3 | 19 | 8 | | 27 | 30 |
| | H | | | 10.0 | | | 10.0 | 63.3 | 26.7 | | 90.0 | 100.0 |
| | V | | | .2 | | | .1 | 1.3 | 1.9 | | 1.2 | .4 |
| Other Nonprofit Organizations | N | 1 | 13 | 3 | | 7 | 24 | 6 | 2 | 3 | 11 | 35 |
| | WN | 2 | 113 | 27 | | 69 | 211 | 36 | 16 | 18 | 70 | 281 |
| | H | .7 | 40.2 | 9.6 | | 24.6 | 75.1 | 12.8 | 5.7 | 6.4 | 24.9 | 100.0 |
| | V | .2 | 7.1 | 2.1 | | 6.7 | 3.8 | 2.5 | 3.7 | 5.7 | 3.2 | 3.6 |
| Business and Industry [3] | N | 6 | 46 | 50 | 12 | 49 | 163 | 16 | 2 | 2 | 20 | 183 |
| | WN | 52 | 373 | 422 | 101 | 492 | 1440 | 84 | 13 | 20 | 117 | 1557 |
| | H | 3.3 | 24.0 | 27.1 | 6.5 | 31.6 | 92.5 | 5.4 | .8 | 1.3 | 7.5 | 100.0 |
| | V | 4.3 | 23.3 | 32.7 | 21.4 | 47.4 | 25.7 | 5.8 | 3.0 | 6.3 | 5.3 | 19.9 |
| Other, and No Report [3] | N | 2 | | 1 | 1 | 2 | 6 | 9 | 1 | 1 | 11 | 17 |
| | WN | 11 | | 11 | 9 | 22 | 53 | 57 | 5 | 12 | 74 | 127 |
| | H | 8.7 | | 8.7 | 7.1 | 17.3 | 41.7 | 44.9 | 3.9 | 9.4 | 58.3 | 100.0 |
| | V | .9 | | .9 | 1.9 | 2.1 | .9 | 3.9 | 1.2 | 3.8 | 3.4 | 1.6 |
| Total, All Categories | N | 168 | 195 | 162 | 62 | 105 | 692 | 251 | 52 | 45 | 348 | 1040 |
| | WN | 1212 | 1598 | 1291 | 472 | 1037 | 5610 | 1451 | 431 | 317 | 2199 | 7809 |
| | H | 15.5 | 20.5 | 16.5 | 6.0 | 13.3 | 71.8 | 18.6 | 5.5 | 4.1 | 28.2 | 100.0 |
| | V | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

[1] includes elementary and secondary schools as well as higher educational institutions

[2] N means actual number of respondents; WN means weighted number (see text for explanation); H means horizontal percentage; V means vertical percentage.

[3] See footnote, page 35

SOURCE: NRC, Commission on Human Resources

Table 17

Employer Categories in 1975 of NSF Graduate Fellows of 1952-1972

| 1975 Employer Categories | | Field of Graduate Fellowship | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Math | Phys | Chem | Earth | Engr | EMP TOTAL | Biosc | Psych | SocSc | BIO/BEH TOTAL | GRAND TOTAL |
| Educational Institutions * | N ** | 171 | 127 | 101 | 37 | 44 | 480 | 227 | 50 | 48 | 325 | 805 |
| | WN | 1211 | 1042 | 739 | 278 | 429 | 3699 | 1307 | 408 | 404 | 2119 | 5818 |
| | H | 20.8 | 17.9 | 12.7 | 4.8 | 7.4 | 63.6 | 22.5 | 7.0 | 6.9 | 36.4 | 100.0 |
| | V | 88.5 | 65.2 | 52.3 | 59.8 | 38.2 | 62.0 | 80.5 | 87.4 | 79.5 | 81.5 | 67.9 |
| Federal Government | N | 3 | 10 | 7 | 11 | 5 | 36 | 15 | 2 | 1 | 18 | 54 |
| | WN | 21 | 59 | 50 | 75 | 56 | 261 | 99 | 13 | 18 | 130 | 391 |
| | H | 5.4 | 15.1 | 12.8 | 19.2 | 14.3 | 66.8 | 25.3 | 3.3 | 4.6 | 33.2 | 100.0 |
| | V | 1.5 | 3.7 | 3.5 | 16.1 | 5.0 | 4.4 | 6.1 | 2.8 | 3.5 | 5.0 | 4.6 |
| State and Local Government | N | 2 | 2 | 2 | 4 | | 10 | 3 | | | 3 | 13 |
| | WN | 15 | 12 | 18 | 28 | | 73 | 19 | | | 19 | 92 |
| | H | 16.3 | 13.0 | 19.6 | 30.4 | | 79.3 | 20.7 | | | 20.7 | 100.0 |
| | V | 1.1 | .8 | 1.3 | 6.0 | | 1.2 | 1.2 | | | .7 | 1.1 |
| Hospitals & Clinics | N | | 1 | 1 | | 1 | 3 | 5 | 2 | | 7 | 10 |
| | WN | | 16 | 10 | | 7 | 33 | 29 | 16 | | 45 | 78 |
| | H | | 20.5 | 12.8 | | 9.0 | 42.3 | 37.2 | 20.5 | | 57.7 | 100.0 |
| | V | | 1.0 | .7 | | .6 | .6 | 1.8 | 3.4 | | 1.7 | .9 |
| Other Nonprofit Organizations | N | 8 | 10 | 5 | | 5 | 28 | 12 | 2 | 6 | 20 | 48 |
| | WN | 45 | 93 | 49 | | 46 | 233 | 71 | 13 | 35 | 119 | 352 |
| | H | 12.8 | 26.4 | 13.9 | | 13.1 | 66.2 | 20.2 | 3.7 | 9.9 | 33.8 | 100.0 |
| | V | 3.3 | 5.8 | 3.5 | | 4.1 | 3.9 | 4.4 | 2.8 | 6.9 | 4.6 | 4.1 |
| Business and Industry | N | 10 | 48 | 65 | 11 | 58 | 192 | 17 | 2 | 5 | 24 | 216 |
| | WN | 77 | 376 | 546 | 84 | 585 | 1668 | 95 | 17 | 51 | 163 | 1831 |
| | H | 4.2 | 20.5 | 29.8 | 4.6 | 31.9 | 91.1 | 5.2 | .9 | 2.8 | 8.9 | 100.0 |
| | V | 5.6 | 23.5 | 38.7 | 18.1 | 52.1 | 28.0 | 5.8 | 3.6 | 10.0 | 6.3 | 21.4 |
| Other, and No Report | N | | | | | | | 1 | | | 1 | 1 |
| | WN | | | | | | | 4 | | | 4 | 4 |
| | H | | | | | | | 100.0 | | | 100.0 | 100.0 |
| | V | | | | | | | .2 | | | .2 | |
| Total, All Categories | N | 194 | 198 | 181 | 63 | 113 | 749 | 280 | 58 | 60 | 398 | 1147 |
| | WN | 1369 | 1598 | 1412 | 465 | 1123 | 5967 | 1624 | 467 | 508 | 2599 | 8566 |
| | H | 16.0 | 18.7 | 16.5 | 5.4 | 13.1 | 69.7 | 19.0 | 5.5 | 5.9 | 30.3 | 100.0 |
| | V | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* includes elementary and secondary schools as well as higher educational institutions

** N means actual number of respondents; WN means weighted number (see text for explanation); H means horizontal percentage; V means vertical percentage.

SOURCE: NRC, Commission on Human Resources

Table 18

Employer Categories of U.S. Doctoral Scientists and Engineers in 1973 and 1975

1930-72 UNITED STATES DOCTORAL SCIENTISTS AND ENGINEERS

18 A TYPE OF EMPLOYER BY FIELD OF EMPLOYMENT FOR FULL-TIME AND PART-TIME EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS EXCLUDING POSTDOCTORAL APPOINTEES -- 1973

| YEAR OF DOCTORATE AND TYPE OF 1973 EMPLOYER | | FIELD OF EMPLOYMENT | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1930-72 DOCTORATES | | ALL FIELDS | MATH | PHYS | CHEM | EARTH | ENGIN | BIOSC | PSYCH | SOCSC | NONSC | UNK |
| EMPLOYED POPULATION | N | 220790 | 14979 | 16164 | 26736 | 10109 | 34317 | 53849 | 24365 | 25924 | 10901 | 3446 |
| | % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| EDUCATIONAL INSTITUTIONS * | % | 58.0 | 79.4 | 55.8 | 37.0 | 50.2 | 35.6 | 67.0 | 81.3 | 83.3 | 55.6 | 40.2 |
| FEDERAL GOVERNMENT | % | 8.7 | 4.8 | 15.0 | 5.9 | 19.8 | 9.0 | 11.1 | 4.3 | 5.0 | 7.4 | 5.0 |
| STATE/LOCAL GOV'T. | % | 1.6 | .4 | .2 | .6 | 4.1 | .7 | 1.8 | 3.9 | 1.6 | 2.4 | 4.0 |
| HOSPITAL/CLINIC | % | 2.5 | .2 | .4 | .7 | .0 | .1 | 3.3 | 13.3 | .1 | .7 | .8 |
| OTHER NON-PROFIT ORGANIZATIONS | % | 3.5 | 1.8 | 4.7 | 2.1 | 4.4 | 3.0 | 2.8 | 4.4 | 4.2 | 6.2 | 3.0 |
| BUSINESS/INDUSTRY | ** | 22.6 | 12.3 | 22.1 | 52.0 | 19.4 | 48.5 | 11.8 | 5.4 | 3.6 | 24.8 | 27.7 |
| OTHER/NO REPORT | % ** | 3.1 | 1.2 | 1.8 | 1.7 | 2.1 | 2.4 | 2.2 | 7.4 | 2.1 | 4.8 | 21.3 |

18B Type of Employer by Field of Employment for Full-Time and Part-Time Employed Doctoral Scientists and Engineers Excluding Postdoctoral Appointees, 1975

A. Individuals Receiving Doctorates During 1930-1974

| 1975 Employer | All Fields | Field of Employment | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Math | Phys | Chem | Earth | Engr | Biosc | Psych | SocSc | Nonsc | No Report |
| Employed Population N | 254,643 | 16,682 | 16,866 | 31,582 | 11,863 | 41,398 | 60,415 | 28,531 | 31,056 | 12,894 | 3,356 |
| Educational Institution * | 57.7% | 78.7% | 61.0% | 38.3% | 48.7% | 34.7% | 66.7% | 58.2% | 81.5% | 57.6% | 46.7% |
| Federal Government | 8.3 | 5.2 | 12.4 | 5.2 | 19.1 | 8.9 | 11.1 | 4.2 | 6.3 | 5.2 | 4.2 |
| State/Local Gov't | 1.7 | .2 | • | .6 | 3.7 | .8 | 2.1 | 3.9 | 2.2 | 2.4 | 1.6 |
| Hospital/Clinic | 2.8 | .1 | .5 | 1.0 | .0 | • | 3.1 | 16.2 | .1 | .5 | 2.5 |
| Other Non-Profit Organization | 3.4 | 1.4 | 4.4 | 2.4 | 4.2 | 2.9 | 2.8 | 3.2 | 5.0 | 6.0 | 7.9 |
| Business/Industry | 25.9 | 14.4 | 21.7 | 52.5 | 24.2 | 52.6 | 14.1 | 14.1 | 4.8 | 28.1 | 29.8 |
| Other/No Report | .2 | • | .0 | • | .0 | • | .1 | .2 | .1 | .2 | 7.3 |

* Includes Elementary and Secondary Schools as well as Colleges and Universities

** See footnote, page 35.

SOURCES: DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES 1973 (1975) PROFILE, Commission on Human Resources, NRC

1975 to the pattern of 1973; and no attempt will be made to account for the sources of differences found.

As with the data on employment status, data on employer categories from the 1973 and 1975 Profile reports are available in Table 18, but limited to the vertical percentage figures.

## Primary Work Activity

The purpose of the NSF Fellowships was to prepare the Fellows for careers in research and/or teaching. Table 19 (for 1973) and Table 20 (for 1975) indicate that a majority of them are so employed--almost evenly divided between these two functions as primary work activity. The administration of research occupies 8.7% in 1973 and 8.2% in 1975--a negligible difference. About 3% are employed in administration of activities other than research and development, and about 1.5% are employed as consultants or in rendering various professional services. Design and development occupies significant numbers in chemistry and engineering, but overall the percentage is only 4.4%. Miscellaneous other industry/business oriented functions occupy 1% of the group, with small but unreliable field differences. Table 21 presents parallel data for the general PhD population from the Profile reports.

## Salaries in 1973 and 1975

Salary data are given in Table 22 for 1973 and in Table 23 for 1975. The same field categories are used as in the preceding tables, but the rows are used to depict means and percentiles. Data for both sexes combined are given in terms of two PhD cohorts, 1950-1966 and 1967-71 for the 1973 survey; in 1975 the younger cohort includes the graduates of 1972 and 1973 as well as 1967-1971. The data on salaries of women were too sparse to permit reliable percentiles in the separate cohorts, but are sufficient for some fields for the total of the two cohorts combined. Hence the bottom portion of Tables 22 and 23 gives data separated by sex in mathematics, the EMP Total, the life sciences, and the social sciences, as well as the Bio/behavioral total. Where the number of cases for a given field was smaller than 20, means and percentiles were not calculated. The data shown are "adjusted salary" figures; that is,

Primary Work Activity in 1973 of NSF Graduate Fellows of 1952-1972

| Primary Work Activity, 1973 | | Field of Graduate Fellowship | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Math | Phys | Chem | Earth | Engr | EMP TOTAL | Biosc | Psych | SocSc | BIO/BEH TOTAL | GRAND TOTAL |
| Teaching | N * | 100 | 58 | 70 | 21 | 31 | 280 | 108 | 27 | 24 | 159 | 439 |
| | WN | 690 | 445 | 539 | 157 | 289 | 2120 | 620 | 215 | 147 | 982 | 3102 |
| | H | 22.2 | 14.3 | 17.4 | 5.1 | 9.3 | 68.3 | 20.0 | 6.9 | 4.7 | 31.7 | 100.0 |
| | V | 56.9 | 27.8 | 41.8 | 33.3 | 27.8 | 37.8 | 42.7 | 50.2 | 46.2 | 44.7 | 39.7 |
| Research | N | 52 | 88 | 63 | 26 | 37 | 266 | 106 | 18 | 14 | 138 | 404 |
| | WN | 394 | 739 | 518 | 200 | 388 | 2239 | 614 | 149 | 113 | 876 | 3115 |
| | H | 12.6 | 23.7 | 16.6 | 6.4 | 12.5 | 71.9 | 19.7 | 4.8 | 3.6 | 28.1 | 100.0 |
| | V | 32.5 | 46.2 | 40.2 | 42.4 | 37.3 | 39.9 | 42.3 | 34.8 | 35.5 | 39.9 | 39.9 |
| Administration of Research | N | 2 | 30 | 16 | 7 | 12 | 67 | 15 | 3 | 3 | 21 | 88 |
| | WN | 21 | 232 | 130 | 58 | 107 | 548 | 74 | 30 | 27 | 131 | 679 |
| | H | 3.1 | 34.2 | 19.1 | 8.5 | 15.8 | 80.7 | 10.9 | 4.4 | 4.0 | 19.3 | 100.0 |
| | V | 1.7 | 14.5 | 10.1 | 12.3 | 10.3 | 9.8 | 5.1 | 7.0 | 8.5 | 6.0 | 8.7 |
| Administration, Other | N | 3 | 1 | 2 | 4 | 5 | 15 | 12 | | | 12 | 27 |
| | WN | 27 | 12 | 16 | 28 | 52 | 135 | 76 | | | 76 | 211 |
| | H | 12.8 | 5.7 | 7.6 | 13.3 | 24.6 | 64.0 | 36.0 | | | 36.0 | 100.0 |
| | V | 2.2 | .8 | 1.2 | 5.9 | 5.0 | 2.4 | 5.2 | | | 3.5 | 2.7 |
| Consulting, Prof. Services | N | 2 | 2 | 1 | | 2 | 7 | 2 | 4 | | 6 | 13 |
| | WN | 20 | 19 | 9 | | 22 | 70 | 14 | 34 | | 48 | 118 |
| | H | 16.9 | 16.1 | 7.6 | | 18.6 | 59.3 | 11.9 | 28.8 | | 40.7 | 100.0 |
| | V | 1.6 | 1.2 | .7 | | 2.1 | 1.2 | 1.0 | 7.9 | | 2.2 | 1.5 |
| Design and Development | N | 3 | 15 | 3 | 1 | 14 | 36 | | | | | 36 |
| | WN | 24 | 146 | 25 | 8 | 141 | 344 | | | | | 344 |
| | H | 7.0 | 42.4 | 7.3 | 2.3 | 41.0 | 100.0 | | | | | 100.0 |
| | V | 2.0 | 9.1 | 1.9 | 1.7 | 13.6 | 6.1 | | | | | 4.4 |
| Reporting, Marketing, Production, Inspection | N | | 1 | 3 | 1 | 2 | 7 | 2 | | 1 | 3 | 10 |
| | WN | | 7 | 29 | 11 | 19 | 66 | 10 | | 3 | 13 | 79 |
| | H | | 8.9 | 36.7 | 13.9 | 24.1 | 83.5 | 12.7 | | 3.8 | 16.5 | 100.0 |
| | V | | .4 | 2.2 | 2.3 | 1.8 | 1.2 | .7 | | .9 | .6 | 1.0 |
| Other, and No Report | N | 6 | | 4 | 2 | 2 | 14 | 6 | | 3 | 9 | 23 |
| | WN | 37 | | 24 | 10 | 21 | 92 | 43 | | 28 | 71 | 163 |
| | H | 22.7 | | 14.7 | 6.1 | 12.9 | 56.4 | 26.4 | | 17.2 | 43.6 | 100.0 |
| | V | 3.1 | | 1.9 | 2.1 | 2.0 | 1.6 | 3.0 | | 8.8 | 3.2 | 2.1 |
| Total, All Categories | N | 168 | 195 | 162 | 62 | 105 | 692 | 251 | 52 | 45 | 348 | 1040 |
| | WN | 1213 | 1600 | 1290 | 472 | 1039 | 5614 | 1451 | 428 | 318 | 2197 | 7811 |
| | H | 15.5 | 20.5 | 16.5 | 6.0 | 13.3 | 71.9 | 18.6 | 5.5 | 4.1 | 28.1 | 100.0 |
| | V | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* N means actual number of respondents; WN means weighted number (see text for explanation); H means horizontal percentage; V means vertical percentage.

SOURCE: NRC, Commission on Human Resources

Table 20

Primary Work Activity in 1975 of NSF Graduate Fellows of 1952-1972

| Primary Work Activity, 1975 | | Field of Graduate Fellowship | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Math | Phys | Chem | Earth | Engr | EMP TOTAL | Biosc | Psych | SocSc | BIO/BEH TOTAL | GRAND TOTAL |
| Teaching | N* | 124 | 53 | 67 | 25 | 25 | 294 | 124 | 34 | 28 | 186 | 480 |
| | WN | 835 | 414 | 502 | 188 | 242 | 2181 | 722 | 273 | 247 | 1242 | 3423 |
| | H | 24.4 | 12.1 | 14.7 | 5.5 | 7.1 | 63.7 | 21.1 | 8.0 | 7.2 | 36.3 | 100.0 |
| | V | 60.9 | 25.9 | 35.5 | 40.4 | 21.5 | 36.5 | 44.5 | 58.2 | 48.3 | 47.7 | 39.9 |
| Research | N | 53 | 98 | 68 | 24 | 37 | 280 | 115 | 19 | 19 | 153 | 433 |
| | WN | 394 | 807 | 562 | 173 | 379 | 2315 | 648 | 157 | 142 | 947 | 3262 |
| | H | 12.1 | 24.7 | 17.2 | 5.3 | 11.6 | 71.0 | 19.9 | 4.8 | 4.4 | 29.0 | 100.0 |
| | V | 28.8 | 50.5 | 39.7 | 37.2 | 33.7 | 38.8 | 39.9 | 33.5 | 27.8 | 36.4 | 38.0 |
| Administration of Research | N | 4 | 24 | 17 | 6 | 18 | 69 | 16 | 2 | 1 | 19 | 88 |
| | WN | 38 | 176 | 138 | 47 | 175 | 574 | 100 | 15 | 10 | 125 | 699 |
| | H | 5.4 | 25.2 | 19.7 | 6.7 | 25.0 | 82.1 | 14.3 | 2.1 | 1.4 | 17.9 | 100.0 |
| | V | 2.8 | 11.0 | 9.8 | 10.1 | 15.6 | 9.6 | 6.2 | 3.2 | 2.0 | 4.8 | 8.2 |
| Administration, Other | N | 4 | 3 | 5 | 7 | 6 | 25 | 10 | | 3 | 13 | 38 |
| | WN | 24 | 28 | 44 | 48 | 55 | 199 | 65 | | 18 | 83 | 282 |
| | H | 8.5 | 9.9 | 15.6 | 17.0 | 19.5 | 70.6 | 23.0 | | 6.4 | 29.4 | 100.0 |
| | V | 1.8 | 1.8 | 3.1 | 10.3 | 4.9 | 3.3 | 4.0 | | 3.5 | 3.2 | 3.3 |
| Consulting, Prof. Services | N | | | 6 | | 1 | 7 | 3 | 2 | 3 | 8 | 15 |
| | WN | | | 45 | | 9 | 54 | 12 | 18 | 30 | 60 | 114 |
| | H | | | 39.5 | | 7.9 | 47.4 | 10.5 | 15.8 | 26.3 | 52.6 | 100.0 |
| | V | | | 3.2 | | .8 | .9 | .7 | 3.8 | 5.9 | 2.3 | 1.3 |
| Design and Development | N | 7 | 17 | 7 | 1 | 23 | 55 | 1 | | 1 | 2 | 57 |
| | WN | 70 | 137 | 61 | 9 | 235 | 512 | 8 | | 7 | 15 | 527 |
| | H | 13.3 | 26.0 | 11.6 | 1.7 | 44.6 | 97.2 | 1.5 | | 1.3 | 2.8 | 100.0 |
| | V | 5.1 | 8.6 | 4.3 | 1.9 | 20.9 | 8.6 | .5 | | 1.4 | .6 | 6.1 |
| Reporting, Marketing, Production, Inspection | N | | | 7 | | | 7 | 3 | | 2 | 5 | 12 |
| | WN | | | 45 | | | 45 | 24 | | 30 | 54 | 99 |
| | H | | | 45.5 | | | 45.5 | 24.2 | | 30.3 | 54.5 | 100.0 |
| | V | | | 3.2 | | | .8 | 1.5 | | 5.9 | 2.1 | 1.2 |
| Other, and No Report | N | 2 | 3 | 4 | | 3 | 12 | 8 | 1 | 3 | 12 | 24 |
| | WN | 9 | 36 | 18 | | 28 | 91 | 45 | 6 | 27 | 78 | 169 |
| | H | 5.3 | 21.3 | 10.7 | | 16.6 | 53.8 | 26.6 | 3.6 | 16.0 | 46.2 | 100.0 |
| | V | .7 | 2.3 | 1.3 | | 2.5 | 1.5 | 2.8 | 1.3 | 5.3 | 3.0 | 2.0 |
| Total, All Categories | N | 194 | 198 | 181 | 63 | 113 | 749 | 280 | 58 | 60 | 398 | 1147 |
| | WN | 1370 | 1598 | 1415 | 465 | 1123 | 5971 | 1624 | 469 | 511 | 2604 | 8575 |
| | H | 16.0 | 18.6 | 16.5 | 5.4 | 13.1 | 69.6 | 18.9 | 5.5 | 6.0 | 30.4 | 100.0 |
| | V | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* N means actual number of respondents; WN means weighted number (see text for explanation); H means horizontal percentage; V means vertical percentage.

SOURCE: NRC, Commission on Human Resources

Table 21

Primary Work Activity of U.S. Doctoral Scientists and Engineers in 1973 and 1975

1930-72 UNITED STATES DOCTORAL SCIENTISTS AND ENGINEERS

21 A PRIMARY WORK ACTIVITY BY FIELD OF EMPLOYMENT FOR FULL-TIME AND PART-TIME EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS EXCLUDING POSTDOCTORAL APPOINTEES — 1973

| YEAR OF DOCTORATE AND 1973 PRIMARY WORK ACTIVITY | | FIELD OF EMPLOYMENT | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1930-72 DOCTORATES | | ALL FIELDS | MATH | PHYS | CHEM | EARTH | ENGIN | BIOSC | PSYCH | SOCSC | NONSC | UNK |
| EMPLOYED POPULATION | N | 220790 | 14979 | 18164 | 26736 | 10109 | 34317 | 53849 | 24365 | 25924 | 10901 | 3446 |
| | % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| TEACHING | % | 37.0 | 60.6 | 35.3 | 28.2 | 31.5 | 25.0 | 32.8 | 37.7 | 64.3 | 30.5 | 21.0 |
| RESEARCH | % | 25.2 | 17.5 | 42.2 | 33.7 | 31.0 | 22.7 | 36.3 | 10.7 | 12.4 | 4.9 | 11.6 |
| ADMINISTRATION OF | % | | | | | | | | | | | |
| -RESEARCH/DEVELOPMENT | | 12.8 | 5.6 | 11.7 | 15.2 | 16.9 | 21.4 | 11.4 | 6.7 | 6.2 | 14.7 | 11.7 |
| -OTHER | | 5.5 | 3.8 | 1.8 | 3.3 | 4.9 | 4.7 | 3.3 | 8.1 | 6.3 | 22.5 | 11.4 |
| CONSULTING/PROF. SERVICES | % | 5.1 | 1.7 | 1.0 | 1.2 | 2.8 | 3.4 | 3.2 | 25.3 | 1.8 | 5.7 | 2.1 |
| DESIGN/DEVELOPMENT | % | 3.8 | 4.8 | 3.1 | 4.0 | 1.6 | 14.6 | .8 | .7 | .5 | 2.3 | 1.2 |
| REPORT/MARKETING/ PRODUCTION/INSPECTION | % | 1.6 | .4 | .5 | 3.0 | 1.5 | 1.6 | 1.4 | .3 | 1.0 | 4.7 | 5.7 |
| OTHER/NO REPORT | % | 9.1 | 5.7 | 4.5 | 7.4 | 9.7 | 6.7 | 10.8 | 10.5 | 7.5 | 14.7 | 35.2 |

21 B Primary Work Activity by Field of Employment for Full-Time and Part-Time Employed Doctoral Scientists and Engineers Excluding Postdoctoral Appointees, 1975

A. Individuals Receiving Doctorates During 1930-1974

| 1975 Primary Work Activity | All Fields | Field of Employment | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Math | Phys | Chem | Earth | Engr | Biosc | Psych | SocSc | Nonsc | No Report |
| Employed Population N | 254,643 | 16,682 | 16,866 | 31,582 | 11,863 | 41,398 | 60,415 | 28,531 | 31,056 | 12,894 | 3,356 |
| Teaching | 36.8% | 60.7% | 34.9% | 28.0% | 29.6% | 22.3% | 33.9% | 38.7% | 63.6% | 31.3% | 22.1% |
| Research | 25.8 | 17.3 | 43.9 | 34.7 | 35.6 | 23.1 | 37.5 | 10.1 | 13.2 | 5.5 | 10.9 |
| Administration of: | | | | | | | | | | | |
| –Research/Development | 14.5 | 6.4 | 11.6 | 22.1 | 16.5 | 22.7 | 13.0 | 8.8 | 8.0 | 16.0 | 14.8 |
| –Other | 6.3 | 4.0 | 1.8 | 3.6 | 6.6 | 6.4 | 4.0 | 8.3 | 6.6 | 24.9 | 12.1 |
| Consulting/Prof. Services | 6.2 | 2.0 | .9 | 1.5 | 4.6 | 4.2 | 4.3 | 29.8 | 2.0 | 5.3 | 6.1 |
| Design/Development | 4.5 | 6.9 | 3.5 | 4.4 | 1.5 | 16.7 | 1.1 | .7 | .5 | 1.9 | 1.4 |
| Report/Marketing/ Production/Inspection | 1.9 | .5 | .7 | 3.1 | 1.7 | 1.8 | 1.7 | .5 | 1.7 | 5.7 | 7.4 |
| Other/No Report | 4.0 | 2.1 | 2.6 | 2.6 | 4.0 | 2.8 | 4.5 | 3.1 | 4.3 | 9.3 | 25.2 |

SOURCES: DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES 1973 (1975) PROFILE, Commission on Human Resources, NRC

Table 22

Salaries in 1973 of NSF Graduate Fellows of 1952-1972, by Field of Graduate Fellowship and Cohort of PhD

| | Mathematics | Physics | Chemistry | Geol Scis | Engineering | EMP Total | Life Scis | Psychology | Social Scis | Bio/Beh Total | GRAND TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CY PhD 1950 to 1966, Men & Women Combined** | | | | | | | | | | | |
| Mean | $23,408 | $23,990 | $22,068 | $21,552 | $25,801 | $23,435 | $22,324 | $24,144 | * | $22,763 | $23,257 |
| Percentile | | | | | | | | | | | |
| 10th | $17,126 | 16,780 | 16,424 | 15,162 | 17,462 | 16,726 | 15,876 | 18,400 | | 16,177 | 16,573 |
| 25th | $18,724 | 19,232 | 18,436 | 17,622 | 20,059 | 18,691 | 18,294 | 21,237 | | 18,873 | 18,728 |
| 50th | $22,624 | 23,410 | 21,867 | 20,355 | 24,142 | 22,556 | 21,361 | 23,507 | | 22,097 | 22,422 |
| 75th | $25,867 | 27,432 | 24,782 | 24,800 | 27,905 | 26,334 | 25,009 | 25,700 | | 25,361 | 26,070 |
| 90th | $31,525 | 32,261 | 28,382 | 31,508 | 33,832 | 31,569 | 29,400 | 31,458 | | 29,681 | 31,305 |
| **CY PhD 1967 to 1971, Men & Women Combined** | | | | | | | | | | | |
| Mean | $15,173 | $16,489 | $16,367 | | $19,944 | $16,863 | $15,419 | | $16,958 | $15,729 | $16,532 |
| Percentile | | | | | | | | | | | |
| 10th | $11,064 | 10,793 | 11,731 | | 15,962 | 11,407 | 11,015 | | 11,080 | 10,874 | 11,244 |
| 25th | $12,734 | 12,466 | 14,505 | | 18,057 | 13,767 | 13,528 | | 13,102 | 13,087 | 13,559 |
| 50th | $15,238 | 15,272 | 16,625 | | 19,828 | 16,586 | 16,171 | | 16,728 | 16,097 | 16,415 |
| 75th | $17,306 | 20,490 | 18,383 | | 22,627 | 19,819 | 17,985 | | 18,685 | 18,043 | 18,850 |
| 90th | $19,069 | 23,577 | 20,434 | | 23,917 | 22,816 | 18,693 | | 26,483 | 19,537 | 22,035 |
| **CY PhD 1950 to 1972 Total, Men** | | | | | | | | | | | |
| Mean | $18,895 | $20,882 | $20,811 | $20,387 | $23,121 | $20,806 | $20,319 | $20,147 | $20,102 | $20,256 | $20,667 |
| Percentile | | | | | | | | | | | |
| 10th | $11,869 | 11,871 | 15,173 | 14,683 | 16,387 | 13,081 | 14,528 | 11,895 | 13,200 | 13,496 | 13,169 |
| 25th | $14,748 | 15,464 | 17,400 | 17,110 | 18,431 | 16,525 | 16,643 | 15,329 | 16,267 | 16,302 | 16,461 |
| 50th | $17,650 | 20,557 | 20,026 | 18,894 | 21,346 | 19,807 | 19,003 | 20,669 | 20,025 | 19,139 | 19,640 |
| 75th | $22,299 | 25,212 | 23,759 | 23,561 | 25,389 | 24,065 | 23,006 | 23,740 | 24,914 | 23,444 | 23,911 |
| 90th | $26,559 | 30,304 | 27,164 | 26,293 | 31,011 | 28,983 | 26,774 | 27,792 | 27,173 | 27,058 | 28,442 |
| **CY PhD 1950 to 1972 Total, Women** | | | | | | | | | | | |
| Mean | $15,315 | | | | | $16,437 | $15,410 | | $14,052 | $15,631 | $15,867 |
| Percentile | | | | | | | | | | | |
| 10th | $10,789 | | | | | 10,970 | 10,141 | | 10,195 | 10,324 | 10,504 |
| 25th | $12,047 | | | | | 12,654 | 11,927 | | 11,445 | 11,889 | 12,102 |
| 50th | $14,144 | | | | | 15,506 | 14,905 | | 13,528 | 14,497 | 14,765 |
| 75th | $17,350 | | | | | 18,700 | 17,981 | | 16,486 | 18,315 | 18,483 |
| 90th | $23,150 | | | | | 23,450 | 24,583 | | 20,050 | 24,700 | 24,500 |
| **CY PhD 1950 to 1972 Total, Men & Women Combined** | | | | | | | | | | | |
| Mean | $18,732 | $20,846 | $20,708 | $20,344 | $23,121 | $20,713 | $19,812 | $20,001 | $18,421 | $19,634 | $20,415 |
| Percentile | | | | | | | | | | | |
| 10th | $11,763 | 11,871 | 15,010 | 14,646 | 16,387 | 12,954 | 13,057 | 11,703 | 11,397 | 12,290 | 12,760 |
| 25th | $14,482 | 15,450 | 17,280 | 17,099 | 18,431 | 16,414 | 16,098 | 15,079 | 14,097 | 15,667 | 16,166 |
| 50th | $17,534 | 20,489 | 19,961 | 18,869 | 21,346 | 19,702 | 18,712 | 20,200 | 17,414 | 18,662 | 19,353 |
| 75th | $22,195 | 25,185 | 23,713 | 23,394 | 25,389 | 23,990 | 22,738 | 23,848 | 21,798 | 23,101 | 23,794 |
| 90th | $26,382 | 30,264 | 27,223 | 26,207 | 31,011 | 28,857 | 26,632 | 29,270 | 26,793 | 26,891 | 28,262 |

* Percentiles not calculated when original N was less than 20.

SOURCE: NRC, Commission on Human Resources

## Table 23

## Salaries in 1975 of NSF Graduate Fellows of 1952-1972, by Field of Graduate Fellowship and Cohort of PhD

| | Mathematics | Physics | Chemistry | Geol Scis | Engineering | EMF Total | Life Scis | Psychology | Social Scis | Bio/Beh Total | GRAND TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CY PhD 1950 to 1966, Men & Women Combined** | | | | | | | | | | | |
| Mean | $26,088 | $28,308 | $26,181 | $24,652 | $29,937 | $27,305 | $25,317 | $27,662 | * | $25,810 | $26,889 |
| Percentile | | | | | | | | | | | |
| 10th | $18,862 | 20,144 | 19,049 | 18,714 | 20,060 | 19,271 | 18,259 | 21,138 | | 18,787 | 19,202 |
| 25th | $20,695 | 23,434 | 21,301 | 20,589 | 23,080 | 21,883 | 21,359 | 23,617 | | 21,676 | 21,806 |
| 50th | $24,966 | 27,463 | 25,570 | 23,667 | 29,272 | 26,023 | 24,537 | 27,385 | | 25,139 | 25,704 |
| 75th | $29,641 | 32,243 | 29,421 | 28,444 | 34,087 | 30,563 | 28,475 | 30,533 | | 29,187 | 30,217 |
| 90th | $36,214 | 38,994 | 37,426 | 30,903 | 36,847 | 36,807 | 33,302 | 34,659 | | 33,408 | 36,280 |
| **CY PhD 1967 to 1973, Men & Women Combined** | | | | | | | | | | | |
| Mean | $17,547 | $19,869 | $19,403 | $20,645 | $22,657 | $19,689 | $17,414 | $16,979 | $19,642 | $17,970 | $19,126 |
| Percentile | | | | | | | | | | | |
| 10th | $11,953 | 13,885 | 15,556 | 15,016 | 17,402 | 14,195 | 11,058 | 10,336 | 13,072 | 11,513 | 13,093 |
| 25th | $15,203 | 16,684 | 17,073 | 15,838 | 18,872 | 16,740 | 15,065 | 15,394 | 16,191 | 15,515 | 16,220 |
| 50th | $18,110 | 19,328 | 18,802 | 22,325 | 22,041 | 19,108 | 17,822 | 16,756 | 18,468 | 17,725 | 18,663 |
| 75th | $20,112 | 22,988 | 22,434 | 24,806 | 25,950 | 22,658 | 20,797 | 18,554 | 21,825 | 20,914 | 22,193 |
| 90th | $22,175 | 26,445 | 24,276 | 25,508 | 29,463 | 25,877 | 22,936 | 23,715 | 26,317 | 24,331 | 25,450 |
| **CY PhD 1950 to 1974 Total, Men** | | | | | | | | | | | |
| Mean | $20,783 | $24,263 | $24,091 | $22,471 | $26,085 | $23,677 | $22,609 | $23,060 | $20,823 | $22,339 | $23,315 |
| Percentile | | | | | | | | | | | |
| 10th | $13,251 | 15,525 | 17,276 | 15,076 | 18,243 | 15,827 | 14,918 | 15,282 | 12,980 | 14,356 | 15,511 |
| 25th | $16,594 | 18,723 | 19,330 | 18,600 | 20,187 | 18,668 | 18,093 | 16,908 | 16,303 | 17,462 | 18,417 |
| 50th | $19,680 | 23,531 | 23,218 | 22,689 | 24,421 | 22,495 | 22,209 | 23,403 | 19,246 | 21,928 | 22,319 |
| 75th | $23,406 | 28,594 | 26,950 | 25,415 | 30,007 | 27,836 | 25,799 | 28,200 | 24,950 | 26,089 | 27,221 |
| 90th | $29,474 | 34,306 | 31,567 | 28,852 | 35,950 | 33,134 | 30,565 | 31,425 | 30,796 | 30,842 | 32,204 |
| **CY PhD 1950 to 1974 Total, Women** | | | | | | | | | | | |
| Mean | $17,687 | | $19,626 | | | $18,725 | $17,727 | | $18,017 | $17,940 | $18,158 |
| Percentile | | | | | | | | | | | |
| 10th | $11,700 | | 12,268 | | | 12,254 | 10,691 | | 10,950 | 11,017 | 11,360 |
| 25th | $15,575 | | 15,169 | | | 15,363 | 15,183 | | 15,283 | 15,161 | 15,229 |
| 50th | $17,450 | | 18,450 | | | 17,950 | 17,832 | | 17,450 | 17,728 | 17,792 |
| 75th | $19,617 | | 22,658 | | | 21,700 | 20,341 | | 21,200 | 20,541 | 20,657 |
| 90th | $25,050 | | 27,400 | | | 25,750 | 24,950 | | 24,900 | 27,250 | 26,250 |
| **CY PhD 1950 to 1974 Total, Men & Women Combined** | | | | | | | | | | | |
| Mean | $20,619 | $24,210 | $23,923 | $22,443 | $26,065 | $23,550 | $21,960 | $22,138 | $20,298 | $21,656 | $22,981 |
| Percentile | | | | | | | | | | | |
| 10th | $13,176 | 15,466 | 17,064 | 15,060 | 18,225 | 15,687 | 13,975 | 14,039 | 12,584 | 13,489 | 15,239 |
| 25th | $16,428 | 18,698 | 19,171 | 18,575 | 20,170 | 18,580 | 17,579 | 16,557 | 16,179 | 16,949 | 18,168 |
| 50th | $19,525 | 23,488 | 23,036 | 22,646 | 24,406 | 22,350 | 21,606 | 22,169 | 18,882 | 21,226 | 21,937 |
| 75th | $22,926 | 28,573 | 26,896 | 25,405 | 30,000 | 27,686 | 25,477 | 27,657 | 24,609 | 25,616 | 26,891 |
| 90th | $29,399 | 34,211 | 31,520 | 28,857 | 35,925 | 33,015 | 30,194 | 31,292 | 30,396 | 30,571 | 31,826 |

* Percentiles not calculated when original N was less than 20.

SOURCE: NRC, Commission on Human Resources

Table 24

Salaries of U.S. Doctoral Scientists and Engineers in 1973 and 1975

1930-72 UNITED STATES DOCTORAL SCIENTISTS AND ENGINEERS

24 A SALARY RANGE BY FIELD OF EMPLOYMENT FOR FULL-TIME EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS — 1973

| YEAR OF DOCTORATE AND 1973 ANNUAL SALARY* | | FIELD OF EMPLOYMENT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1930-72 DOCTORATES | | ALL FIELDS | MATH | PHYS | CHEM | EARTH | ENGIN | BIOSC | PSYCH | SOCSC | NONSC | UNK |
| FULL-TIME EMPLOYED POPULATION | N | 213613 | 14750 | 15832 | 26157 | 9835 | 33745 | 52323 | 22739 | 25025 | 10258 | 2949 |
| LOWER DECILE | $ | 14,250 | 13,040 | 13,680 | 14,670 | 13,850 | 16,100 | 13,310 | 14,200 | 13,840 | 13,660 | 13,020 |
| LOWER QUARTILE | $ | 16,990 | 16,250 | 16,930 | 17,240 | 16,840 | 18,730 | 16,460 | 16,700 | 16,650 | 17,440 | 17,260 |
| MEDIAN | $ | 20,890 | 19,790 | 21,150 | 21,160 | 20,730 | 22,490 | 19,940 | 20,010 | 20,160 | 22,700 | 22,220 |
| UPPER QUARTILE | $ | 25,590 | 24,550 | 25,920 | 25,140 | 25,030 | 27,060 | 24,770 | 24,710 | 25,010 | 29,430 | 28,490 |
| UPPER DECILE | $ | 31,750 | 30,610 | 31,320 | 31,160 | 32,290 | 33,110 | 30,990 | 30,290 | 31,150 | 36,660 | 35,330 |
| 1968-73 DOCTORATES | N | 58924 | 4999 | 4105 | 5717 | 2869 | 10838 | 13220 | 6786 | 7496 | 2348 | 646 |
| LOWER DECILE | $ | 13,960 | 13,680 | 13,380 | 13,460 | 13,950 | 15,430 | 13,190 | 12,380 | 12,340 | 10,990 | 10,300 |
| LOWER QUARTILE | $ | 15,220 | 14,960 | 14,120 | 14,930 | 15,340 | 17,060 | 13,800 | 15,390 | 15,380 | 14,590 | 13,600 |
| MEDIAN | $ | 17,640 | 17,120 | 17,170 | 17,270 | 17,710 | 19,770 | 16,680 | 17,560 | 17,640 | 17,570 | 16,990 |
| UPPER QUARTILE | $ | 20,230 | 19,480 | 19,870 | 19,600 | 20,610 | 22,820 | 19,020 | 19,730 | 19,890 | 20,890 | 19,690 |
| UPPER DECILE | $ | 23,780 | 22,850 | 23,290 | 22,720 | 23,780 | 24,670 | 22,230 | 23,780 | 24,220 | 24,730 | 23,320 |

*ACADEMIC YEAR SALARIES HAVE BEEN MULTIPLIED BY 12/9 TO ADJUST TO A FULL-YEAR SCALE.

24 B Salary by Field of Employment for Full-Time Employed Doctoral Scientists and Engineers, 1975

| 1975 Annual Salary | All Fields | Individuals Receiving Doctorates During 1930-1974 — Field of Employment | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Math | Phys | Chem | Earth | Engr | Biosc | Psych | SocSc | Nonsc | No Report |
| 10th Percentile | $16,111 | $15,224 | $16,417 | $16,585 | $16,489 | $18,707 | $15,678 | $15,655 | $15,650 | $14,855 | $14,947 |
| 25th Percentile | 18,862 | 17,962 | 19,436 | 19,514 | 18,930 | 21,418 | 18,248 | 18,181 | 18,077 | 18,956 | 18,871 |
| 50th Percentile (Median) | 23,126 | 21,790 | 23,641 | 23,885 | 23,382 | 25,133 | 22,164 | 22,020 | 21,992 | 24,260 | 24,171 |
| 75th Percentile | 28,568 | 26,742 | 28,768 | 28,933 | 28,673 | 30,072 | 27,559 | 26,850 | 27,702 | 31,883 | 30,763 |
| 90th Percentile | 35,165 | 33,202 | 34,102 | 35,565 | 35,650 | 36,162 | 34,283 | 33,291 | 33,919 | 40,184 | 37,797 |

Sources: DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES 1973 (1975) PROFILE, Commission on Human Resources, NRC

for those in academic employment the reported salary was multiplied by 11/9 to adjust for the shortened work year; summer earnings were not included, except for those persons who reported working on a 12-month salary basis. As mentioned earlier, these salary figures can be compared with those for the general PhD population reported in the Profile reports of the Comprehensive Roster for 1973 and 1975; the same salary adjustments were used in both of those reports and the present report. Table 24, excerpted from these sources, gives data as nearly comparable as possible for the NSF total figures. A serious limitation on comparability exists, however, because of a significant difference in employer categories. A higher proportion of former NSF Fellows are academically employed, and academic salaries tend to be lower than those in business and industry, which employ a higher proportion of the general science/engineering PhD population.

In addition, comparison with the general population of PhD's is difficult because identical cohort sets are not available. There are the expected age (cohort) differences in both sets of figures. When some allowance for age is made, as in comparing the 1973 salaries of the 1967-71 NSF cohort with the 1968-71 general PhD population medians (Table 22 versus Table 24A) the NSF data show lower median values, field by field.

## Publications and Citations

It is through publications in the scientific literature that the achievements of scientists are primarily made known to the scientific community, and it is through citations to these publications that the impact of a given scientist's contributions can most conveniently be measured. This is not to suggest that these two measures, publication counts and counts of citations, constitute an all-inclusive or sufficient criterion of scientific accomplishment, but only to indicate the general significance of the final two criteria which are available, as described below.

## Counts of Publications

The counts of publications were made from tapes secured from the Institute for Scientific Information, which regularly surveys a broad and comprehensive list of publications in the world's scientific literature. On the ISI tapes (which, unfortunately for the present report, list first-named authors only), each individual is listed by last name, and first and second initial. For this reason, persons with the same last name and initials cannot be distinguished by computer techniques. Tabulations from these tapes must therefore be limited

to those with unique names in the CHR files, which, combining several sources, include over a half-million PhD's and MD's. Approximately half of these people have unique names, when abbreviated to conform to the ISI format. Because of slight differences in this format for the publications index, as compared with the citations index, the percentage of "unique names" varies slightly in the two tables presented below, for publications and citations data respectively. In both cases, however, the general arrangement of the data, and the types of information presented, are parallel.

The mean number of publications and citations of the NSF Fellows, by sex, are shown in Table 25, by field and by cohort of doctorate degree. The first row under each field gives the mean number of publications over the 1961-1972 period; the second row gives the mean number of citations during the same period. The data for women are sparse; means based on fewer than 10 cases are enclosed in parentheses to provide a caution regarding unreliability. Marked field differences are apparent, and the time trends are strongly evident. For purposes of comparison, the means and standard deviations of the corresponding data for the general population, secured from other tabulations incidentally available in the CHR, are provided in Table 26. The only difference here is that the cohort of the 1950's is divided into two five-year periods, whereas the entire decade was combined in the case of the NSF data in order to make the numbers larger and the resulting data more reliable. The skewness of the distributions of publications and citations counts is evidenced in the very large standard deviations, typically much larger than the means.

## Potential Additional Data

The data reported herein do not constitute the entire range of possible data that could be derived from the data banks of the Commission on Human Resources, because of the possibilities of taking data as inter-related sets. For example, the ratio of citations to publications could be calculated, or the data herein re-interpreted in terms of the norm of number of publications or citations for a given graduation cohort, or for those of a given age, etc. However, as it was not the purpose of this report to be evaluative,but only to provide a set of descriptive statistics, such further elaboration and correlational studies is left to future researchers. In Appendix 8 to this report there is a more extensive description of data that are available to use for analytical studies, and an account of some of the limitations of these data for such purposes.

Table 25

Mean Number of Publications and Citations in the 1961-1972 Scientific Literature by NSF Graduate Fellows, by Field of Application, Sex, & Cohort of PhD

| | MEN | | | | | WOMEN | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50-59 | 60-64 | 65-69 | 70-74 | No PhD | 50-59 | 60-64 | 65-69 | 70-74 | No PhD |
| MATHEMATICS | | | | | | | | | | |
| Publications | 5.9 | 6.5 | 4.2 | 1.0 | .5 | | (10.0)* | .8 | .4 | 1.4 |
| Citations | 89.3 | 30.3 | 8.4 | 1.1 | 1.0 | | (44.7) | 4.6 | .1 | 2.4 |
| PHYSICS | | | | | | | | | | |
| Publications | 13.2 | 11.1 | 9.0 | 3.1 | 1.8 | | (.5) | (5.4) | (1.0) | .2 |
| Citations | 219.7 | 123.2 | 56.2 | 9.0 | 10.5 | (5.0) | | (46.2) | (7.3) | .1 |
| CHEMISTRY | | | | | | | | | | |
| Publications | 12.2 | 11.3 | 7.2 | 2.8 | 1.5 | | 4.4 | 2.4 | 1.9 | .3 |
| Citations | 153.4 | 125.4 | 57.9 | 8.8 | 12.9 | (6.9) | 58.8 | 17.2 | 4.1 | 4.0 |
| GEOSCIENCES | | | | | | | | | | |
| Publications | 4.7 | 7.6 | 4.2 | 2.8 | .5 | | | (1.0) | | (.1) |
| Citations | 69.1 | 59.4 | 23.8 | 7.7 | 3.0 | (6.0) | | (1.8) | | (.1) |
| ENGINEERING | | | | | | | | | | |
| Publications | 6.0 | 6.7 | 4.6 | 1.3 | .5 | (5.0) | | | | 2.4 |
| Citations | 66.8 | 48.9 | 21.4 | 2.9 | 1.3 | (8.0) | | | (5.0) | 1.9 |
| LIFE SCIENCES | | | | | | | | | | |
| Publications | 11.2 | 9.8 | 6.6 | 2.8 | 1.5 | 6.9 | 6.0 | 3.0 | 1.5 | 1.3 |
| Citations | 159.1 | 111.6 | 51.5 | 7.6 | 8.3 | 51.1 | 50.9 | 21.3 | 6.3 | 6.0 |
| PSYCHOLOGY | | | | | | | | | | |
| Publications | 6.2 | 6.9 | 4.4 | 1.5 | 1.1 | (2.8) | (.3) | .8 | 1.6 | .7 |
| Citations | 150.2 | 59.2 | 32.9 | 3.5 | 3.1 | (7.2) | (10.7) | 6.3 | 1.8 | 2.2 |

*Parentheses surround values calculated on fewer than 10 cases.

SOURCE: NRC, Commission on Human Resources

Table 26

Publication and Citation Norms Based on
All PhD's 1950-73, from DRF:
Means and Standard Deviations by Field, Sex, and Cohort of PhD

Publications

| | MEN | | | | | WOMEN | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50-54 | 55-59 | 60-64 | 65-69 | 70-73 | 50-54 | 55-59 | 60-64 | 65-69 | 70-73 |
| MATHEMATICS | | | | | | | | | | |
| Mean | 3.7 | 5.0 | 5.2 | 3.4 | 1.1 | 1.3 | 3.7 | 2.3 | 1.8 | .5 |
| S.D. | 6.3 | 8.9 | 7.2 | 5.7 | 3.4 | 3.1 | 11.4 | 5.7 | 5.1 | 1.6 |
| PHYSICS | | | | | | | | | | |
| Mean | 8.3 | 10.2 | 10.5 | 7.1 | 3.5 | 2.8 | 5.7 | 3.9 | 3.5 | 2.4 |
| S.D. | 13.3 | 14.8 | 13.0 | 9.4 | 6.0 | 6.7 | 10.3 | 6.0 | 5.4 | 6.5 |
| CHEMISTRY | | | | | | | | | | |
| Mean | 7.1 | 7.8 | 7.3 | 4.5 | 2.6 | 3.1 | 2.3 | 3.3 | 2.4 | 1.6 |
| S.D. | 16.9 | 15.6 | 12.0 | 6.7 | 4.7 | 10.0 | 6.9 | 6.5 | 5.1 | 3.7 |
| GEOSCIENCES | | | | | | | | | | |
| Mean | 3.7 | 4.2 | 4.8 | 3.0 | 2.0 | (.2)* | (1.7) | (.8) | 2.8 | 1.2 |
| S.D. | 7.2 | 8.2 | 8.2 | 5.0 | 5.1 | (.6) | (4.0) | (1.6) | 4.2 | 1.7 |
| ENGINEERING | | | | | | | | | | |
| Mean | 4.1 | 4.8 | 5.1 | 3.3 | 1.5 | (2.0) | (.6) | (1.8) | 1.5 | 1.1 |
| S.D. | 9.3 | 9.5 | 8.8 | 5.9 | 4.2 | (4.0) | (.8) | (3.6) | 3.2 | 2.1 |
| LIFE SCIENCES | | | | | | | | | | |
| Mean | 9.5 | 9.5 | 8.[illegible] | 5.7 | 2.6 | 3.2 | 3.4 | 3.8 | 2.8 | 1.7 |
| S.D. | 17.3 | 15.7 | 12.7 | 8.5 | 5.2 | 7.1 | 7.0 | 7.0 | 5.3 | 3.6 |
| PSYCHOLOGY | | | | | | | | | | |
| Mean | 3.2 | 3.5 | 4.0 | 2.7 | 1.2 | 1.5 | .9 | 1.2 | 1.1 | .6 |
| S.D. | 6.7 | 7.9 | 7.1 | 5.4 | 3.1 | 4.5 | 3.0 | 3.4 | 3.6 | 2.1 |

Citations

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | | | | | | | | | | |
| Mean | 46.3 | 31.4 | 17.2 | 5.4 | 2.0 | 10.9 | 7.7 | 7.7 | 2.5 | .7 |
| S.D. | 121.1 | 71.2 | 39.5 | 17.3 | 26.5 | 25.1 | 19.7 | 23.0 | 9.2 | 4.1 |
| PHYSICS | | | | | | | | | | |
| Mean | 113.0 | 111.9 | 73.2 | 30.2 | 7.7 | 21.5 | 38.8 | 20.3 | 18.4 | 2.5 |
| S.D. | 233.0 | 204.4 | 129.4 | 55.8 | 49.1 | 36.4 | 56.9 | 39.6 | 51.4 | 5.7 |
| CHEMISTRY | | | | | | | | | | |
| Mean | 80.0 | 68.7 | 46.7 | 18.4 | 5.4 | 35.6 | 23.7 | 20.3 | 10.2 | 4.2 |
| S.D. | 230.4 | 172.3 | 99.9 | 40.3 | 18.6 | 110.5 | 65.5 | 48.4 | 22.7 | 17.1 |
| GEOSCIENCES | | | | | | | | | | |
| Mean | 38.7 | 43.6 | 29.5 | 12.5 | 4.7 | (17.9) | (5.3) | (4.1) | 9.9 | 1.7 |
| S.D. | 72.9 | 98.7 | 57.5 | 29.2 | 16.0 | (42.0) | (9.9) | (8.7) | 23.7 | 3.4 |
| ENGINEERING | | | | | | | | | | |
| Mean | 32.9 | 34.8 | 24.2 | 9.9 | 3.7 | (5.0) | (5.2) | (4.9) | 5.2 | 1.8 |
| S.D. | 86.3 | 100.6 | 60.2 | 25.0 | 25.8 | (7.0) | (11.7) | (8.0) | 10.9 | 7.1 |
| LIFE SCIENCES | | | | | | | | | | |
| Mean | 91.4 | 71.5 | 50.8 | 22.4 | 5.8 | 38.7 | 40.5 | 28.7 | 14.5 | 4.0 |
| S.D. | 220.0 | 160.1 | 105.4 | 66.6 | 33.8 | 96.3 | 190.3 | 66.5 | 60.1 | 16.3 |
| PSYCHOLOGY | | | | | | | | | | |
| Mean | 39.1 | 32.8 | 20.3 | 7.6 | 1.8 | 7.5 | 6.3 | 4.4 | 3.2 | 1.1 |
| S.D. | 98.7 | 90.9 | 45.9 | 23.4 | 10.0 | 20.9 | 21.5 | 15.3 | 13.4 | 4.9 |

*Parentheses surround values calculated on fewer than 20 cases.

SOURCE: NRC, Commission on Human Resources

## Appendix

Included in this appendix are a number of tables that would make the text unduly cumbersome, but which provide valuable additional data regarding the program. In addition, Appendix 8 describes the data that are available in CHR that might be useful in an additional and more comprehensive and analytical evaluative study of the NSF Fellowship program. The nature of the data sources, and some of their limitations, are described, but this appendix does not attempt to design the study which might be made with these data. The reason is that it is assumed that an independent agency which was not involved in any way in the original selection process, would conduct the study and would wish to determine the design parameters, as well as conduct the study. This appendix report is therefore limited to a description of currently available evidence.

The several appendix tables described below have been referenced in the text of the report; a recapitulation of their content is given here for ready reference. Appendix Tables 1-5 provide data by level of award (first-year, intermediate, terminal), whereas the text tables provided data only for all three levels combined. Level 1 (first year) includes college seniors and those with less than a full year of graduate training. Level 3 (Terminal) includes those judged by their graduate departments to be within one year of attaining the doctorate. Level 2 (Intermediate) includes all others.

Appendix 1 provides data on PhD graduations.

Appendix 2 provides data on the award of NSF postdoctoral fellowships.

Appendix 3 provides data on inclusions in the National Faculty Directory.

Appendix 4 provides data on inclusions in the Dissertation Adviser File.

Appendix 5 provides data on research grants by NSF and NIH.

Appendix 6 and Appendix 7 provide data for 1973 and 1975, respectively, of the Comprehensive Roster follow-up study. The data show, by field, sex, and cohort, the number of NSF Fellows included in the CR follow-up samples, the number of respondents, and the response rates for these fellows. For reference purposes, the reader is referred to the 1973 and 1975 Profile reports to compare the response rates of these Fellows with those of the general run of PhD's. The differences are small, but are in the direction that indicates that the Fellows responded at least as well as the average.

# Doctorate Attainment, by Cohort and Level of NSF Graduate Fellowship Award: First Year Level*

COHORT OF FIRST AWARD

| FLD OF APPLIC | PHD? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | YES | N | 26 | 27 | 52 | 68 | 38 | 72 | 89 | 92 | 76 | 66 | 99 | 72 | 55 | 62 | 62 | 25 | 5 | 986 |
| | | % | 76.5 | 71.1 | 81.3 | 81.9 | 71.7 | 74.2 | 77.4 | 75.4 | 66.7 | 75.9 | 60.7 | 57.1 | 50.0 | 45.3 | 44.0 | 32.5 | 8.1 | 60.8 |
| | NO | N | 8 | 11 | 12 | 15 | 15 | 25 | 26 | 30 | 38 | 21 | 64 | 54 | 55 | 75 | 79 | 52 | 57 | 637 |
| | | % | 23.5 | 28.9 | 18.8 | 18.1 | 28.3 | 25.8 | 22.6 | 24.6 | 33.3 | 24.1 | 39.3 | 42.9 | 50.0 | 54.7 | 56.0 | 67.5 | 91.9 | 39.2 |
| | TOTAL | N | 34 | 38 | 64 | 83 | 53 | 97 | 115 | 122 | 114 | 87 | 163 | 126 | 110 | 137 | 141 | 77 | 62 | 1623 |
| PHYSICS | YES | N | 61 | 96 | 89 | 138 | 69 | 87 | 107 | 78 | 78 | 53 | 89 | 48 | 46 | 44 | 25 | 2 | 2 | 1112 |
| | | % | 78.2 | 87.3 | 83.2 | 89.6 | 81.2 | 85.3 | 84.9 | 83.0 | 87.6 | 88.3 | 84.8 | 63.2 | 60.5 | 49.4 | 31.3 | 4.9 | 5.9 | 73.4 |
| | NO | N | 17 | 14 | 18 | 16 | 16 | 15 | 19 | 16 | 11 | 7 | 16 | 28 | 30 | 45 | 55 | 39 | 32 | 394 |
| | | % | 21.8 | 12.7 | 16.8 | 10.4 | 18.8 | 14.7 | 15.1 | 17.0 | 12.4 | 11.7 | 15.2 | 36.8 | 39.5 | 50.6 | 68.8 | 95.1 | 94.1 | 26.2 |
| | TOTAL | N | 78 | 110 | 107 | 154 | 85 | 102 | 126 | 94 | 89 | 60 | 105 | 76 | 76 | 89 | 80 | 41 | 34 | 1506 |
| CHEMISTRY | YES | N | 75 | 98 | 82 | 99 | 48 | 53 | 70 | 56 | 52 | 59 | 71 | 44 | 46 | 47 | 37 | 5 | 3 | 945 |
| | | % | 85.2 | 88.3 | 83.7 | 90.0 | 82.8 | 84.1 | 87.5 | 87.5 | 88.1 | 86.8 | 92.2 | 75.9 | 68.7 | 63.5 | 48.1 | 15.2 | 8.3 | 77.4 |
| | NO | N | 13 | 13 | 16 | 11 | 10 | 10 | 10 | 8 | 7 | 9 | 6 | 14 | 21 | 27 | 40 | 28 | 33 | 276 |
| | | % | 14.8 | 11.7 | 16.3 | 10.0 | 17.2 | 15.9 | 12.5 | 12.5 | 11.9 | 13.2 | 7.8 | 24.1 | 31.3 | 36.5 | 51.9 | 84.8 | 91.7 | 22.6 |
| | TOTAL | N | 88 | 111 | 98 | 110 | 58 | 63 | 80 | 64 | 59 | 68 | 77 | 58 | 67 | 74 | 77 | 33 | 36 | 1221 |
| GEOSCIENCES | YES | N | 12 | 7 | 14 | 25 | 11 | 15 | 13 | 8 | 12 | 8 | 17 | 5 | 6 | 5 | 2 | 1 | | 161 |
| | | % | 70.6 | 50.0 | 66.7 | 80.6 | 78.6 | 88.2 | 86.7 | 88.9 | 80.0 | 66.7 | 85.0 | 55.6 | 75.0 | 29.4 | 6.7 | 7.7 | | 57.1 |
| | NO | N | 5 | 7 | 7 | 6 | 3 | 2 | 2 | 1 | 3 | 4 | 3 | 4 | 2 | 12 | 28 | 12 | 20 | 121 |
| | | % | 29.4 | 50.0 | 33.3 | 19.4 | 21.4 | 11.8 | 13.3 | 11.1 | 20.0 | 33.3 | 15.0 | 44.4 | 25.0 | 70.6 | 93.3 | 92.3 | 100.0 | 42.9 |
| | TOTAL | N | 17 | 14 | 21 | 31 | 14 | 17 | 15 | 9 | 15 | 12 | 20 | 9 | 8 | 17 | 30 | 13 | 20 | 282 |
| ENGINEERING | YES | N | 35 | 37 | 66 | 85 | 40 | 50 | 51 | 48 | 52 | 48 | 71 | 48 | 32 | 20 | 17 | 11 | 8 | 719 |
| | | % | 66.0 | 43.5 | 75.0 | 72.0 | 64.5 | 61.7 | 61.4 | 68.6 | 60.5 | 60.8 | 62.8 | 52.7 | 43.2 | 35.1 | 25.8 | 16.9 | 9.3 | 53.0 |
| | NO | N | 18 | 48 | 22 | 33 | 22 | 31 | 32 | 22 | 34 | 31 | 42 | 43 | 42 | 37 | 49 | 54 | 78 | 638 |
| | | % | 34.0 | 56.5 | 25.0 | 28.0 | 35.5 | 38.3 | 38.6 | 31.4 | 39.5 | 39.2 | 37.2 | 47.3 | 56.8 | 64.9 | 74.2 | 83.1 | 90.7 | 47.0 |
| | TOTAL | N | 53 | 85 | 88 | 118 | 62 | 81 | 83 | 70 | 86 | 79 | 113 | 91 | 74 | 57 | 66 | 65 | 86 | 1357 |
| EMP TOTAL | YES | N | 209 | 265 | 303 | 415 | 206 | 277 | 330 | 282 | 270 | 234 | 347 | 217 | 185 | 178 | 143 | 44 | 18 | 3923 |
| | | % | 77.4 | 74.0 | 80.2 | 83.7 | 75.7 | 76.9 | 78.8 | 78.6 | 74.4 | 76.5 | 72.6 | 60.3 | 55.2 | 47.6 | 36.3 | 19.2 | 7.6 | 65.5 |
| | NO | N | 61 | 93 | 75 | 81 | 66 | 83 | 89 | 77 | 93 | 72 | 131 | 143 | 150 | 196 | 251 | 185 | 220 | 2066 |
| | | % | 22.6 | 26.0 | 19.8 | 16.3 | 24.3 | 23.1 | 21.2 | 21.4 | 25.6 | 23.5 | 27.4 | 39.7 | 44.8 | 52.4 | 63.7 | 80.8 | 92.4 | 34.5 |
| | TOTAL | N | 270 | 358 | 378 | 496 | 272 | 360 | 419 | 359 | 363 | 306 | 478 | 360 | 335 | 374 | 394 | 229 | 238 | 5989 |
| BIOSCIENCES | YES | N | 39 | 46 | 58 | 72 | 33 | 57 | 57 | 47 | 61 | 62 | 77 | 43 | 59 | 55 | 30 | 3 | 3 | 802 |
| | | % | 67.2 | 69.7 | 72.5 | 72.7 | 76.7 | 68.7 | 68.7 | 77.0 | 77.2 | 74.7 | 76.2 | 64.2 | 62.8 | 57.3 | 28.8 | 3.9 | 2.6 | 57.8 |
| | NO | N | 19 | 20 | 22 | 27 | 10 | 26 | 26 | 14 | 18 | 21 | 24 | 24 | 35 | 41 | 74 | 73 | 112 | 586 |
| | | % | 32.8 | 30.3 | 27.5 | 27.3 | 23.3 | 31.3 | 31.3 | 23.0 | 22.8 | 25.3 | 23.8 | 35.8 | 37.2 | 42.7 | 71.2 | 96.1 | 97.4 | 42.2 |
| | TOTAL | N | 58 | 66 | 80 | 99 | 43 | 83 | 83 | 61 | 79 | 83 | 101 | 67 | 94 | 96 | 104 | 76 | 115 | 1388 |
| PSYCHOLOGY | YES | N | 1 | 4 | 8 | 9 | 5 | 8 | 16 | 18 | 22 | 14 | 25 | 21 | 18 | 9 | 19 | 2 | 2 | 201 |
| | | % | 50.0 | 44.4 | 66.7 | 64.3 | 71.4 | 66.7 | 69.6 | 81.8 | 75.9 | 66.7 | 67.6 | 61.8 | 69.2 | 40.9 | 50.0 | 5.9 | 4.8 | 52.3 |
| | NO | N | 1 | 5 | 4 | 5 | 2 | 4 | 7 | 4 | 7 | 7 | 12 | 13 | 8 | 13 | 19 | 32 | 40 | 183 |
| | | % | 50.0 | 55.6 | 33.3 | 35.7 | 28.6 | 33.3 | 30.4 | 18.2 | 24.1 | 33.3 | 32.4 | 38.2 | 30.8 | 59.1 | 50.0 | 94.1 | 95.2 | 47.7 |
| | TOTAL | N | 2 | 9 | 12 | 14 | 7 | 12 | 23 | 22 | 29 | 21 | 37 | 34 | 26 | 22 | 38 | 34 | 42 | 384 |
| SOC SCI & OTH | YES | N | 1 | 2 | 6 | 6 | 5 | 9 | 18 | 13 | 25 | 34 | 38 | 18 | 19 | 21 | 28 | 10 | 3 | 256 |
| | | % | 100.0 | 100.0 | 100.0 | 60.0 | 83.3 | 75.0 | 69.2 | 68.4 | 67.6 | 70.8 | 50.0 | 37.5 | 41.3 | 32.8 | 23.0 | 10.0 | 2.7 | 34.9 |
| | NO | N | | | | 4 | 1 | 3 | 8 | 6 | 12 | 14 | 38 | 30 | 27 | 43 | 94 | 90 | 107 | 477 |
| | | % | | | | 40.0 | 16.7 | 25.0 | 30.8 | 31.6 | 32.4 | 29.2 | 50.0 | 62.5 | 58.7 | 67.2 | 77.0 | 90.0 | 97.3 | 65.1 |
| | TOTAL | N | 1 | 2 | 6 | 10 | 6 | 12 | 26 | 19 | 37 | 48 | 76 | 48 | 46 | 64 | 122 | 100 | 110 | 733 |
| BIO/BEH TOTAL | YES | N | 41 | 52 | 72 | 87 | 43 | 74 | 91 | 78 | 108 | 110 | 140 | 82 | 96 | 85 | 77 | 15 | 8 | 1259 |
| | | % | 67.2 | 67.5 | 73.5 | 70.7 | 76.8 | 69.2 | 68.9 | 76.5 | 74.5 | 72.4 | 65.4 | 55.0 | 57.8 | 46.7 | 29.2 | 7.1 | 3.0 | 50.3 |
| | NO | N | 20 | 25 | 26 | 36 | 13 | 33 | 41 | 24 | 37 | 42 | 74 | 67 | 70 | 97 | 187 | 195 | 259 | 1246 |
| | | % | 32.8 | 32.5 | 26.5 | 29.3 | 23.2 | 30.8 | 31.1 | 23.5 | 25.5 | 27.6 | 34.6 | 45.0 | 42.2 | 53.3 | 70.8 | 92.9 | 97.0 | 49.7 |
| | TOTAL | N | 61 | 77 | 98 | 123 | 56 | 107 | 132 | 102 | 145 | 152 | 214 | 149 | 166 | 182 | 264 | 210 | 267 | 2505 |
| GRAND TOTAL | YES | N | 250 | 317 | 375 | 502 | 245 | 351 | 421 | 360 | 378 | 344 | 487 | 299 | 281 | 263 | 220 | 59 | 26 | 5182 |
| | | % | 75.5 | 72.9 | 78.8 | 81.1 | 75.9 | 75.2 | 76.4 | 78.1 | 74.4 | 75.1 | 70.4 | 58.7 | 56.1 | 47.3 | 33.4 | 13.4 | 5.1 | 61.0 |
| | NO | N | 81 | 118 | 101 | 117 | 79 | 116 | 130 | 101 | 130 | 114 | 205 | 210 | 220 | 293 | 438 | 380 | 479 | 3312 |
| | | % | 24.5 | 27.1 | 21.2 | 18.9 | 24.1 | 24.8 | 23.6 | 21.9 | 25.6 | 24.9 | 29.6 | 41.3 | 43.9 | 52.7 | 66.6 | 86.6 | 94.9 | 39.0 |
| | TOTAL | N | 331 | 435 | 476 | 619 | 328 | 467 | 551 | 461 | 508 | 458 | 692 | 509 | 501 | 556 | 658 | 439 | 505 | 8494 |

* See footnote on page 6 for definition of level of fellowship. Terminal and intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Doctorate Attainment, by Cohort and Level of NSF Graduate Fellowship Award: Intermediate Level*

| FLD OF APPLIC | PHDT | | COHORT OF FIRST AWARD 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | YES | N | 28 | 15 | 15 | 26 | 18 | 14 | 31 | 18 | 19 | 9 | 49 | 17 | 19 | 19 | 14 | 8 | | 319 |
| | | % | 100.0 | 78.9 | 93.8 | 86.7 | 81.8 | 66.7 | 83.8 | 85.7 | 86.4 | 75.0 | 81.7 | 63.0 | 65.5 | 65.5 | 58.3 | 88.9 | | 78.6 |
| | NO | N | | 4 | 1 | 4 | 4 | 7 | 6 | 3 | 3 | 3 | 11 | 10 | 10 | 10 | 10 | 1 | | 87 |
| | | % | | 21.1 | 6.3 | 13.3 | 18.2 | 33.3 | 16.2 | 14.3 | 13.6 | 25.0 | 18.3 | 37.0 | 34.5 | 34.5 | 41.7 | 11.1 | | 21.4 |
| | TOTAL | N | 28 | 19 | 16 | 30 | 22 | 21 | 37 | 21 | 22 | 12 | 60 | 27 | 29 | 29 | 24 | 9 | | 406 |
| PHYSICS | YES | N | 54 | 46 | 38 | 35 | 22 | 27 | 25 | 30 | 20 | 14 | 50 | 12 | 8 | 10 | 14 | 2 | | 416 |
| | | % | 100.0 | 93.9 | 90.5 | 92.1 | 91.7 | 90.0 | 86.2 | 88.2 | 100.0 | 87.5 | 90.9 | 85.7 | 72.7 | 90.9 | 58.3 | 40.0 | | 89.3 |
| | NO | N | | 3 | 4 | 3 | 2 | 3 | 4 | 4 | | 2 | 5 | 2 | 3 | 1 | 10 | 3 | | 50 |
| | | % | | 6.1 | 9.5 | 7.9 | 8.3 | 10.0 | 13.8 | 11.8 | | 12.5 | 9.1 | 14.3 | 27.3 | 9.1 | 41.7 | 60.0 | | 10.7 |
| | TOTAL | N | 54 | 49 | 42 | 38 | 24 | 30 | 29 | 34 | 20 | 16 | 55 | 14 | 11 | 11 | 24 | 5 | | 466 |
| CHEMISTRY | YES | N | 61 | 58 | 43 | 52 | 20 | 49 | 26 | 22 | 27 | 17 | 60 | 19 | 26 | 16 | 20 | 9 | | 525 |
| | | % | 98.4 | 98.3 | 93.5 | 94.5 | 90.9 | 96.1 | 89.7 | 95.7 | 93.1 | 89.5 | 96.8 | 90.5 | 89.7 | 80.0 | 90.9 | 69.2 | | 93.3 |
| | NO | N | 1 | 1 | 3 | 3 | 2 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 4 | 2 | 4 | | 38 |
| | | % | 1.6 | 1.7 | 6.5 | 5.5 | 9.1 | 3.9 | 10.3 | 4.3 | 6.9 | 10.5 | 3.2 | 9.5 | 10.3 | 20.0 | 9.1 | 30.8 | | 6.7 |
| | TOTAL | N | 62 | 59 | 46 | 55 | 22 | 51 | 30 | 23 | 29 | 19 | 62 | 21 | 29 | 20 | 22 | 13 | | 563 |
| GEOSCIENCES | YES | N | 17 | 18 | 18 | 28 | 13 | 17 | 15 | 15 | 10 | 9 | 17 | 10 | 8 | 8 | 8 | 2 | | 212 |
| | | % | 100.0 | 94.7 | 100.0 | 93.3 | 92.9 | 89.5 | 83.3 | 93.8 | 90.9 | 90.0 | 94.4 | 76.9 | 75.0 | 53.3 | 54.5 | 50.0 | | 86.2 |
| | NO | N | | 1 | | 2 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 1 | 3 | 3 | 2 | | 18 |
| | | % | | 5.3 | | 6.7 | 7.1 | 10.5 | 16.7 | 6.3 | 9.1 | 10.0 | 5.6 | 23.1 | 25.0 | 46.7 | 45.5 | 50.0 | | 7.3 |
| | TOTAL | N | 17 | 19 | 18 | 30 | 14 | 19 | 18 | 16 | 11 | 10 | 18 | 13 | 12 | 15 | 11 | 4 | | 245 |
| ENGINEERING | YES | N | 24 | 20 | 16 | 33 | 24 | 38 | 30 | 28 | 20 | 10 | 43 | 12 | 8 | 14 | 21 | 4 | | 354 |
| | | % | 88.9 | 95.2 | 72.7 | 91.7 | 88.9 | 84.4 | 83.3 | 84.8 | 80.0 | 82.6 | 91.5 | 85.7 | 66.7 | 73.7 | 84.0 | 44.4 | | 84.1 |
| | NO | N | 3 | 1 | 6 | 3 | 3 | 7 | 6 | 5 | 5 | 4 | 4 | 2 | 4 | 5 | 4 | 5 | | 67 |
| | | % | 11.1 | 4.8 | 27.3 | 8.3 | 11.1 | 15.6 | 16.7 | 15.2 | 20.0 | 17.4 | 8.5 | 14.3 | 33.3 | 26.3 | 16.0 | 55.6 | | 15.9 |
| | TOTAL | N | 27 | 21 | 22 | 36 | 27 | 45 | 36 | 33 | 25 | 23 | 47 | 14 | 12 | 19 | 25 | 9 | | 421 |
| FMP TOTAL | YES | N | 184 | 157 | 130 | 174 | 97 | 145 | 127 | 113 | 96 | 68 | 219 | 70 | 75 | 78 | 75 | 25 | | 1829 |
| | | % | 97.9 | 94.0 | 90.3 | 92.1 | 89.0 | 87.3 | 84.7 | 89.0 | 89.7 | 85.0 | 90.5 | 78.9 | 75.8 | 73.6 | 70.8 | 62.5 | | 86.9 |
| | NO | N | 4 | 10 | 14 | 15 | 12 | 21 | 23 | 14 | 11 | 12 | 23 | 19 | 24 | 28 | 31 | 15 | | 275 |
| | | % | 2.1 | 6.0 | 9.7 | 7.9 | 11.0 | 12.7 | 15.3 | 11.0 | 10.3 | 15.0 | 9.5 | 21.3 | 24.2 | 26.4 | 29.2 | 37.5 | | 13.1 |
| | TOTAL | N | 188 | 167 | 144 | 189 | 109 | 166 | 150 | 127 | 107 | 80 | 242 | 89 | 99 | 106 | 106 | 40 | | 2104 |
| BIOSCIENCES | YES | N | 64 | 61 | 56 | 52 | 30 | 46 | 37 | 36 | 32 | 17 | 63 | 23 | 13 | 30 | 43 | 17 | 1 | 871 |
| | | % | 88.9 | 89.7 | 87.5 | 86.7 | 90.9 | 90.2 | 82.2 | 81.8 | 94.1 | 81.0 | 80.8 | 85.2 | 87.0 | 68.2 | 68.3 | 65.4 | 100.0 | 83.6 |
| | NO | N | 8 | 7 | 8 | 8 | 3 | 5 | 8 | 8 | 2 | 4 | 15 | 4 | 2 | 14 | 20 | 9 | | 132 |
| | | % | 11.1 | 10.3 | 12.5 | 13.3 | 9.1 | 9.8 | 17.8 | 18.2 | 5.9 | 19.0 | 19.2 | 14.8 | 12.9 | 31.8 | 31.7 | 34.6 | | 10.4 |
| | TOTAL | N | 72 | 68 | 64 | 60 | 33 | 51 | 45 | 44 | 34 | 21 | 78 | 27 | 15 | 44 | 63 | 26 | 1 | 1003 |
| PSYCHOLOGY | YES | N | 4 | 15 | 10 | 9 | 3 | 10 | 8 | 6 | 7 | 5 | 7 | 4 | 4 | 6 | 10 | 8 | | 122 |
| | | % | 100.0 | 93.8 | 100.0 | 90.0 | 60.0 | 83.3 | 80.0 | 75.0 | 87.5 | 71.4 | 87.5 | 80.0 | 100.0 | 100.0 | 69.0 | 61.5 | | 81.9 |
| | NO | N | | 1 | | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | | | 7 | 5 | | 27 |
| | | % | | 6.3 | | 10.0 | 40.0 | 16.7 | 20.0 | 25.0 | 12.5 | 28.6 | 12.5 | 20.0 | | | 30.4 | 38.5 | | 18.1 |
| | TOTAL | N | 4 | 16 | 10 | 10 | 5 | 12 | 10 | 8 | 8 | 7 | 8 | 5 | 4 | 6 | 23 | 13 | | 149 |
| SOC SCI & OTH | YES | N | | 3 | 13 | 19 | 7 | 16 | 17 | 17 | 21 | 21 | 34 | 19 | 17 | 10 | 17 | 10 | | 267 |
| | | % | | 100.0 | 81.3 | 86.4 | 87.5 | 88.9 | 73.9 | 70.8 | 77.8 | 77.8 | 77.3 | 63.3 | 60.7 | 50.0 | 52.9 | 38.5 | | 69.3 |
| | NO | N | | | 3 | 3 | 1 | 2 | 6 | 7 | 6 | 6 | 10 | 11 | 11 | 10 | 15 | 16 | | 117 |
| | | % | | | 18.8 | 13.6 | 12.5 | 11.1 | 26.1 | 29.2 | 22.2 | 22.2 | 22.7 | 36.7 | 39.3 | 50.0 | 47.1 | 61.5 | | 30.4 |
| | TOTAL | N | | 3 | 16 | 22 | 8 | 18 | 23 | 24 | 27 | 27 | 44 | 30 | 28 | 20 | 32 | 26 | | 384 |
| BIO/BEH TOTAL | YES | N | 68 | 99 | 79 | 80 | 40 | 72 | 62 | 59 | 60 | 43 | 104 | 46 | 34 | 48 | 52 | 35 | 1 | 1060 |
| | | % | 89.6 | 90.0 | 87.8 | 87.0 | 87.0 | 88.9 | 79.5 | 77.6 | 87.0 | 78.2 | 80.0 | 74.2 | 79.1 | 63.2 | 61.2 | 53.8 | 100.0 | 78.6 |
| | NO | N | 8 | 11 | 11 | 12 | 6 | 9 | 16 | 17 | 9 | 12 | 26 | 16 | 9 | 28 | 33 | 30 | | 286 |
| | | % | 10.5 | 10.0 | 12.2 | 13.0 | 13.0 | 11.1 | 20.5 | 22.4 | 13.0 | 21.8 | 20.0 | 25.8 | 21.0 | 36.8 | 38.8 | 46.2 | | 21.4 |
| | TOTAL | N | 76 | 110 | 90 | 92 | 46 | 81 | 78 | 76 | 69 | 55 | 130 | 62 | 43 | 76 | 85 | 65 | 1 | 1346 |
| GRAND TOTAL | YES | N | 252 | 256 | 209 | 254 | 137 | 217 | 189 | 172 | 156 | 111 | 323 | 116 | 134 | 128 | 127 | 60 | 1 | 2886 |
| | | % | 93.3 | 92.4 | 89.3 | 90.4 | 88.4 | 87.9 | 82.9 | 84.3 | 88.6 | 82.2 | 86.6 | 76.3 | 77.4 | 66.0 | 65.5 | 57.7 | 100.0 | 83.6 |
| | NO | N | 18 | 21 | 25 | 27 | 18 | 30 | 39 | 32 | 20 | 24 | 50 | 36 | 39 | 66 | 67 | 44 | | 565 |
| | | % | 6.7 | 7.6 | 10.7 | 9.6 | 11.6 | 12.1 | 17.1 | 15.7 | 11.4 | 17.8 | 13.4 | 23.7 | 22.5 | 34.0 | 34.5 | 42.3 | | 16.4 |
| | TOTAL | N | 270 | 277 | 234 | 281 | 155 | 247 | 228 | 204 | 176 | 135 | 373 | 152 | 173 | 194 | 194 | 104 | 1 | 3451 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Doctorate Attainment, by Cohort and Level of NSF Graduate Fellowship Award: Terminal Level*

| | | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLD OF APPLIC | PHD? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
| MATHEMATICS | YES | N | 19 | 6 | 3 | 4 | 3 | 6 | 5 | 5 | 2 | 1 | 26 | 8 | 9 | 12 | 8 | 6 | | 126 |
| | | % | 95.0 | 85.7 | 100.0 | 80.0 | 75.0 | 100.0 | 100.0 | 100.0 | 100.0 | 50.0 | 93.5 | 100.0 | 81.8 | 92.3 | 100.0 | 75.0 | | 91.3 |
| | NO | N | 1 | 1 | | 1 | 1 | | | | | 1 | 2 | | 2 | 1 | | 2 | | 12 |
| | | % | 5.0 | 14.3 | | 20.0 | 25.0 | | | | | 50.0 | 6.5 | | 18.2 | 7.7 | | 25.0 | | 8.7 |
| | TOTAL | N | 20 | 7 | 3 | 5 | 4 | 6 | 5 | 5 | 2 | 2 | 31 | 8 | 11 | 13 | 8 | 8 | | 138 |
| PHYSICS | YES | N | 65 | 23 | 6 | 10 | 9 | 8 | 7 | 5 | 5 | 1 | 10 | 8 | 3 | 9 | 8 | | | 177 |
| | | % | 94.2 | 85.2 | 75.0 | 90.9 | 90.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 90.9 | 100.0 | 100.0 | 81.8 | 100.0 | | | 92.2 |
| | NO | N | 4 | 4 | 2 | 1 | 1 | | | | | | 1 | | | 2 | | | | 15 |
| | | % | 5.8 | 14.8 | 25.0 | 9.1 | 10.0 | | | | | | 9.1 | | | 18.2 | | | | 7.8 |
| | TOTAL | N | 69 | 27 | 8 | 11 | 10 | 8 | 7 | 5 | 5 | 1 | 11 | 8 | 3 | 11 | 8 | | | 192 |
| CHEMISTRY | YES | N | 54 | 34 | 24 | 18 | 7 | 16 | 6 | 7 | 7 | 3 | 12 | 3 | 2 | 5 | 11 | | | 200 |
| | | % | 98.2 | 100.0 | 100.0 | 100.0 | 100.0 | 88.9 | 85.7 | 100.0 | 100.0 | 100.0 | 100.0 | 75.0 | 66.7 | 100.0 | 100.0 | | | 97.2 |
| | NO | N | 1 | | | | | 2 | 1 | | | | | 1 | 1 | | | | | 6 |
| | | % | 1.9 | | | | | 11.1 | 14.3 | | | | | 25.0 | 33.3 | | | | | 2.8 |
| | TOTAL | N | 55 | 34 | 24 | 18 | 7 | 18 | 7 | 7 | 7 | 3 | 12 | 4 | 3 | 5 | 11 | | | 206 |
| GEOSCIENCES | YES | N | 16 | 10 | 8 | 6 | 1 | 7 | 5 | 4 | 2 | 5 | 4 | 2 | 1 | 6 | 2 | | | 79 |
| | | % | 88.9 | 100.0 | 88.9 | 100.0 | 50.0 | 100.0 | 83.3 | 66.7 | 100.0 | 83.3 | 100.0 | 66.7 | 50.0 | 75.0 | 100.0 | | | 86.8 |
| | NO | N | 2 | | 1 | | 1 | | 1 | 2 | | 1 | | 1 | 1 | 2 | | | | 12 |
| | | % | 11.1 | | 11.1 | | 50.0 | | 16.7 | 33.3 | | 16.7 | | 33.3 | 50.0 | 25.0 | | | | 13.2 |
| | TOTAL | N | 18 | 10 | 9 | 6 | 2 | 7 | 6 | 6 | 2 | 6 | 4 | 3 | 2 | 8 | 2 | | | 91 |
| ENGINEERING | YES | N | 19 | 24 | 7 | 8 | 7 | 13 | 10 | 8 | 8 | 3 | 12 | 11 | 7 | 15 | 4 | 3 | | 160 |
| | | % | 90.5 | 100.0 | 87.5 | 90.0 | 100.0 | 92.9 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 77.8 | 88.2 | 80.0 | 100.0 | | 94.1 |
| | NO | N | 2 | | 1 | 1 | | 1 | | | | | | | 2 | 2 | 1 | | | 10 |
| | | % | 9.5 | | 12.5 | 10.0 | | 7.1 | | | | | | | 22.2 | 11.8 | 20.0 | | | 5.9 |
| | TOTAL | N | 21 | 24 | 8 | 10 | 7 | 14 | 10 | 8 | 8 | 3 | 12 | 11 | 9 | 17 | 5 | 3 | | 170 |
| EMP TOTAL | YES | N | 173 | 97 | 48 | 47 | 27 | 50 | 33 | 29 | 24 | 13 | 67 | 32 | 22 | 47 | 33 | 9 | | 751 |
| | | % | 94.5 | 95.1 | 92.3 | 94.0 | 90.0 | 94.3 | 94.3 | 93.5 | 100.0 | 86.7 | 95.7 | 94.1 | 78.6 | 87.0 | 97.1 | 81.8 | | 93.2 |
| | NO | N | 10 | 5 | 4 | 3 | 3 | 3 | 2 | 2 | | 2 | 3 | 2 | 6 | 7 | 1 | 2 | | 55 |
| | | % | 5.5 | 4.9 | 7.7 | 6.0 | 10.0 | 5.7 | 5.7 | 6.5 | | 13.3 | 4.3 | 5.9 | 21.4 | 13.0 | 2.9 | 18.2 | | 6.8 |
| | TOTAL | N | 183 | 102 | 52 | 50 | 30 | 53 | 35 | 31 | 24 | 15 | 70 | 34 | 28 | 54 | 34 | 11 | | 806 |
| BIOSCIENCES | YES | N | 82 | 41 | 29 | 22 | 3 | 10 | 11 | 5 | 5 | 5 | 10 | 4 | 1 | 21 | 17 | 10 | | 269 |
| | | % | 95.3 | 93.2 | 100.0 | 100.0 | 100.0 | 90.9 | 91.7 | 100.0 | 83.3 | 83.3 | 83.3 | 80.0 | 88.9 | 84.0 | 94.4 | 90.9 | | 93.1 |
| | NO | N | 4 | 3 | | | | 1 | 1 | | 1 | 1 | 2 | 1 | 1 | 4 | 1 | 1 | | 20 |
| | | % | 4.7 | 6.8 | | | | 9.1 | 8.3 | | 16.7 | 16.7 | 16.7 | 20.0 | 11.1 | 16.0 | 5.6 | 9.1 | | 6.9 |
| | TOTAL | N | 86 | 44 | 29 | 22 | 3 | 11 | 12 | 5 | 6 | 6 | 12 | 5 | 9 | 25 | 18 | 11 | | 534 |
| PSYCHOLOGY | YES | N | 4 | 10 | 4 | 4 | 1 | 3 | 3 | 5 | 2 | 2 | 6 | 3 | | 5 | 4 | 2 | | 58 |
| | | % | 100.0 | 90.9 | 80.0 | 100.0 | 100.0 | 100.0 | 100.0 | 83.3 | 100.0 | 100.0 | 85.7 | 100.0 | | 71.4 | 80.0 | 100.0 | | 89.2 |
| | NO | N | | 1 | 1 | | | | | 1 | | | 1 | | | 2 | 1 | | | 7 |
| | | % | | 9.1 | 20.0 | | | | | 16.7 | | | 14.3 | | | 28.6 | 20.0 | | | 10.8 |
| | TOTAL | N | 4 | 11 | 5 | 4 | 1 | 3 | 3 | 6 | 2 | 2 | 7 | 3 | | 7 | 5 | 2 | | 65 |
| SOC SCI & OTH | YES | N | 3 | | 7 | 3 | 2 | 5 | 4 | 6 | 4 | 2 | 18 | 11 | 11 | 10 | 7 | 3 | | 95 |
| | | % | 100.0 | | 100.0 | 100.0 | 66.7 | 100.0 | 66.7 | 100.0 | 66.7 | 66.7 | 90.0 | 91.7 | 78.6 | 66.7 | 63.6 | 50.0 | | 79.8 |
| | NO | N | | 1 | | | 1 | | 2 | | 2 | 1 | 2 | 1 | 3 | 5 | 4 | 3 | | 24 |
| | | % | | 100.0 | | | 33.3 | | 33.3 | | 33.3 | 33.3 | 10.0 | 8.3 | 21.4 | 33.3 | 36.4 | 50.0 | | 20.2 |
| | TOTAL | N | 3 | 1 | 7 | 3 | 3 | 5 | 6 | 6 | 6 | 3 | 20 | 12 | 14 | 15 | 11 | 6 | | 119 |
| BIO/BEH TOTAL | YES | N | 89 | 51 | 40 | 29 | 6 | 18 | 18 | 10 | 9 | 7 | 36 | 18 | 19 | 36 | 28 | 14 | | 436 |
| | | % | 95.7 | 91.1 | 97.6 | 100.0 | 85.7 | 94.7 | 85.7 | 94.1 | 78.0 | 81.8 | 87.2 | 90.0 | 82.6 | 76.6 | 82.4 | 82.4 | | 89.2 |
| | NO | N | 4 | 5 | 1 | | 1 | 1 | 3 | 1 | 2 | 1 | 5 | 2 | 4 | 11 | 6 | 3 | | 50 |
| | | % | 4.3 | 8.9 | 2.4 | | 14.3 | 5.3 | 14.3 | 5.9 | 21.4 | 18.2 | 12.8 | 10.0 | 17.4 | 23.4 | 17.6 | 17.6 | | 10.2 |
| | TOTAL | N | 93 | 56 | 41 | 29 | 7 | 19 | 21 | 17 | 14 | 11 | 39 | 20 | 23 | 47 | 34 | 17 | | 488 |
| GRAND TOTAL | YES | N | 262 | 148 | 88 | 76 | 33 | 68 | 51 | 45 | 35 | 22 | 101 | 50 | 41 | 83 | 61 | 23 | | 1187 |
| | | % | 94.6 | 93.7 | 94.6 | 96.2 | 89.2 | 94.4 | 91.1 | 93.8 | 92.1 | 84.6 | 92.7 | 92.6 | 80.4 | 82.2 | 89.7 | 82.1 | | 91.7 |
| | NO | N | 15 | 10 | 5 | 3 | 4 | 4 | 5 | 3 | 3 | 4 | 8 | 4 | 10 | 18 | 7 | 5 | | 107 |
| | | % | 5.4 | 6.3 | 5.4 | 3.8 | 10.8 | 5.6 | 8.9 | 6.3 | 7.9 | 15.4 | 7.3 | 7.4 | 19.6 | 17.8 | 10.3 | 17.9 | | 8.3 |
| | TOTAL | N | 276 | 158 | 93 | 79 | 37 | 72 | 56 | 48 | 38 | 26 | 109 | 54 | 51 | 101 | 68 | 28 | | 1294 |

* See footnote on page 6 for definition of level of fellowship. Terminal and intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# NSF Postdoctoral Awards, by Cohort and Level of NSF Graduate Fellowship Awards: First Year Level*

| FLD OF APPLIC | NSF F? | | COHORT OF FIRST AWARD 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | YES | N | 6 | 7 | 9 | 9 | 6 | 4 | 5 | 5 | 3 | 1 | 1 | 1 | | | | | | 57 |
| | | % | 17.6 | 18.4 | 14.1 | 10.8 | 11.3 | 4.1 | 4.3 | 4.1 | 2.6 | 1.1 | .6 | .8 | | | | | | 3.5 |
| | NO | N | 28 | 31 | 55 | 74 | 47 | 93 | 110 | 117 | 111 | 86 | 162 | 125 | 110 | 137 | 141 | 77 | 62 | 1566 |
| | | % | 82.4 | 81.6 | 85.9 | 89.2 | 88.7 | 95.9 | 95.7 | 95.9 | 97.4 | 98.9 | 99.4 | 99.2 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 96.5 |
| | TOTAL | N | 34 | 38 | 64 | 83 | 53 | 97 | 115 | 122 | 114 | 87 | 163 | 126 | 110 | 137 | 141 | 77 | 62 | 1623 |
| PHYSICS | YES | N | 13 | 19 | 18 | 11 | 9 | 9 | 6 | 5 | 4 | 3 | 3 | 2 | 1 | | | | | 103 |
| | | % | 16.7 | 17.3 | 16.8 | 7.1 | 10.6 | 8.8 | 4.8 | 5.3 | 4.5 | 5.0 | 2.9 | 2.6 | 1.3 | | | | | 6.8 |
| | NO | N | 65 | 91 | 89 | 143 | 76 | 93 | 120 | 89 | 85 | 57 | 102 | 74 | 75 | 89 | 80 | 41 | 34 | 1403 |
| | | % | 83.3 | 82.7 | 83.2 | 92.9 | 89.4 | 91.2 | 95.2 | 94.7 | 95.5 | 95.0 | 97.1 | 97.4 | 98.7 | 100.0 | 100.0 | 100.0 | 100.0 | 93.2 |
| | TOTAL | N | 78 | 110 | 107 | 154 | 85 | 102 | 126 | 94 | 89 | 60 | 105 | 76 | 76 | 89 | 80 | 41 | 34 | 1506 |
| CHEMISTRY | YES | N | 11 | 15 | 17 | 16 | 8 | 6 | 6 | 5 | 8 | 4 | 7 | 6 | | | | | | 109 |
| | | % | 12.5 | 13.5 | 17.3 | 14.5 | 13.8 | 9.5 | 7.5 | 7.8 | 13.6 | 5.9 | 9.1 | 10.3 | | | | | | 8.9 |
| | NO | N | 77 | 96 | 81 | 94 | 50 | 57 | 74 | 59 | 51 | 64 | 70 | 52 | 67 | 74 | 77 | 33 | 36 | 1112 |
| | | % | 87.5 | 86.5 | 82.7 | 85.5 | 86.2 | 90.5 | 92.5 | 92.2 | 86.4 | 94.1 | 90.9 | 89.7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 91.1 |
| | TOTAL | N | 88 | 111 | 98 | 110 | 58 | 63 | 80 | 64 | 59 | 68 | 77 | 58 | 67 | 74 | 77 | 33 | 36 | 1221 |
| GEOSCIENCES | YES | N | | | | 5 | | 1 | 2 | 1 | 1 | | 2 | | | | | | | 12 |
| | | % | | | | 16.1 | | 5.9 | 13.3 | 11.1 | 6.7 | | 10.0 | | | | | | | 4.3 |
| | NO | N | 17 | 14 | 21 | 26 | 14 | 16 | 13 | 8 | 14 | 12 | 18 | 9 | 8 | 17 | 30 | 13 | 20 | 270 |
| | | % | 100.0 | 100.0 | 100.0 | 83.9 | 100.0 | 94.1 | 86.7 | 88.9 | 93.3 | 100.0 | 90.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 95.7 |
| | TOTAL | N | 17 | 14 | 21 | 31 | 14 | 17 | 15 | 9 | 15 | 12 | 20 | 9 | 8 | 17 | 30 | 13 | 20 | 282 |
| ENGINEERING | YES | N | 3 | 1 | 5 | 3 | 1 | | 3 | | 1 | 1 | | | | | | | | 18 |
| | | % | 5.7 | 1.2 | 5.7 | 2.5 | 1.6 | | 3.6 | | 1.2 | 1.3 | | | | | | | | 1.3 |
| | NO | N | 50 | 84 | 83 | 115 | 61 | 81 | 80 | 70 | 85 | 78 | 113 | 91 | 74 | 57 | 66 | 65 | 86 | 1339 |
| | | % | 94.3 | 98.8 | 94.3 | 97.5 | 98.4 | 100.0 | 96.4 | 100.0 | 98.8 | 98.7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 98.7 |
| | TOTAL | N | 53 | 85 | 88 | 118 | 62 | 81 | 83 | 70 | 86 | 79 | 113 | 91 | 74 | 57 | 66 | 65 | 86 | 1357 |
| EMP TOTAL | YES | N | 33 | 42 | 49 | 44 | 24 | 20 | 22 | 16 | 17 | 9 | 13 | 9 | 1 | | | | | 299 |
| | | % | 12.2 | 11.7 | 13.0 | 8.9 | 8.8 | 5.6 | 5.4 | 4.5 | 4.7 | 2.9 | 2.7 | 2.5 | .3 | | | | | 5.0 |
| | NO | N | 237 | 316 | 329 | 452 | 248 | 340 | 397 | 343 | 346 | 297 | 465 | 351 | 334 | 374 | 394 | 229 | 238 | 5690 |
| | | % | 87.8 | 88.3 | 87.0 | 91.1 | 91.2 | 94.4 | 94.7 | 95.5 | 95.3 | 97.1 | 97.3 | 97.5 | 99.7 | 100.0 | 100.0 | 100.0 | 100.0 | 95.0 |
| | TOTAL | N | 270 | 358 | 378 | 496 | 272 | 360 | 419 | 359 | 363 | 306 | 478 | 360 | 335 | 374 | 394 | 229 | 238 | 5989 |
| BIOSCIENCES | YES | N | 2 | 6 | 9 | 10 | 6 | 8 | 5 | 2 | 3 | 7 | 5 | 1 | | 1 | | | | 65 |
| | | % | 3.4 | 9.1 | 11.3 | 10.1 | 14.0 | 9.6 | 6.0 | 3.3 | 3.8 | 8.4 | 5.0 | 1.5 | | 1.0 | | | | 4.7 |
| | NO | N | 56 | 60 | 71 | 89 | 37 | 75 | 78 | 59 | 76 | 76 | 96 | 66 | 94 | 95 | 104 | 76 | 115 | 1323 |
| | | % | 96.6 | 90.9 | 88.8 | 89.9 | 86.0 | 90.4 | 94.0 | 96.7 | 96.2 | 91.6 | 95.0 | 98.5 | 100.0 | 99.0 | 100.0 | 100.0 | 100.0 | 95.3 |
| | TOTAL | N | 58 | 66 | 80 | 99 | 43 | 83 | 83 | 61 | 79 | 83 | 101 | 67 | 94 | 96 | 104 | 76 | 115 | 1388 |
| PSYCHOLOGY | YES | N | | | | 2 | | 1 | 1 | | | | 3 | | | | | | | 7 |
| | | % | | | | 14.3 | | 8.3 | 4.3 | | | | 8.1 | | | | | | | 1.8 |
| | NO | N | 2 | 9 | 12 | 12 | 7 | 11 | 22 | 22 | 29 | 21 | 34 | 34 | 26 | 22 | 38 | 34 | 42 | 377 |
| | | % | 100.0 | 100.0 | 100.0 | 85.7 | 100.0 | 91.7 | 95.7 | 100.0 | 100.0 | 100.0 | 91.9 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 98.2 |
| | TOTAL | N | 2 | 9 | 12 | 14 | 7 | 12 | 23 | 22 | 29 | 21 | 37 | 34 | 26 | 22 | 38 | 34 | 42 | 384 |
| SOC SCI & OTH | YES | N | | 1 | | | | | 1 | 1 | | 1 | | 1 | | | | | | 5 |
| | | % | | 50.0 | | | | | 3.8 | 5.3 | | 2.1 | | 2.1 | | | | | | .7 |
| | NO | N | 1 | 1 | 6 | 10 | 6 | 12 | 25 | 18 | 37 | 47 | 76 | 47 | 48 | 64 | 122 | 100 | 110 | 728 |
| | | % | 100.0 | 50.0 | 100.0 | 100.0 | 100.0 | 100.0 | 96.2 | 94.7 | 100.0 | 97.9 | 100.0 | 97.9 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.3 |
| | TOTAL | N | 1 | 2 | 6 | 10 | 6 | 12 | 26 | 19 | 37 | 48 | 76 | 48 | 48 | 64 | 122 | 100 | 110 | 733 |
| BIO/BEH TOTAL | YES | N | 2 | 7 | 9 | 12 | 6 | 9 | 7 | 3 | 3 | 8 | 8 | 2 | | 1 | | | | 77 |
| | | % | 3.3 | 9.1 | 9.2 | 9.8 | 10.7 | 8.4 | 5.3 | 2.9 | 2.1 | 5.3 | 3.7 | 1.3 | | .5 | | | | 3.1 |
| | NO | N | 59 | 70 | 89 | 111 | 50 | 98 | 125 | 99 | 142 | 144 | 206 | 147 | 166 | 181 | 264 | 210 | 267 | 2428 |
| | | % | 96.7 | 90.9 | 90.8 | 90.2 | 89.3 | 91.6 | 94.7 | 97.1 | 97.9 | 94.7 | 96.3 | 98.7 | 100.0 | 99.5 | 100.0 | 100.0 | 100.0 | 96.9 |
| | TOTAL | N | 61 | 77 | 98 | 123 | 56 | 107 | 132 | 102 | 145 | 152 | 214 | 149 | 166 | 182 | 264 | 210 | 267 | 2505 |
| GRAND TOTAL | YES | N | 35 | 49 | 58 | 56 | 30 | 29 | 29 | 19 | 20 | 17 | 21 | 11 | 1 | 1 | | | | 376 |
| | | % | 10.6 | 11.3 | 12.2 | 9.0 | 9.1 | 6.2 | 5.3 | 4.1 | 3.9 | 3.7 | 3.0 | 2.2 | .2 | .2 | | | | 4.4 |
| | NO | N | 296 | 386 | 418 | 563 | 298 | 438 | 522 | 442 | 488 | 441 | 671 | 498 | 500 | 555 | 658 | 439 | 505 | 8118 |
| | | % | 89.4 | 88.7 | 87.8 | 91.0 | 90.9 | 93.8 | 94.7 | 95.9 | 96.1 | 96.3 | 97.0 | 97.8 | 99.8 | 99.8 | 100.0 | 100.0 | 100.0 | 95.6 |
| | TOTAL | N | 331 | 435 | 476 | 619 | 328 | 467 | 551 | 461 | 508 | 458 | 692 | 509 | 501 | 556 | 658 | 439 | 505 | 8494 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# NSF Postdoctoral Awards, by Cohort and Level of NSF Graduate Fellowship Awards: Intermediate Level*

| FLD OF APPLIC | NSF F? | | COHORT OF FIRST AWARD 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | YES | N | 7 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | | | 1 | | | | | | 22 |
| | | % | 25.0 | 15.8 | 12.5 | 6.7 | 4.5 | 4.8 | 5.4 | 9.5 | 4.5 | | | 3.7 | | | | | | 5.4 |
| | NO | N | 21 | 16 | 14 | 28 | 21 | 20 | 35 | 19 | 21 | 12 | 60 | 26 | 29 | 29 | 24 | 9 | | 384 |
| | | % | 75.0 | 84.2 | 87.5 | 93.3 | 95.5 | 95.2 | 94.6 | 90.5 | 95.5 | 100.0 | 100.0 | 96.3 | 100.0 | 100.0 | 100.0 | 100.0 | | 94.6 |
| | TOTAL | N | 28 | 19 | 16 | 30 | 22 | 21 | 37 | 21 | 22 | 12 | 60 | 27 | 29 | 29 | 24 | 9 | | 406 |
| PHYSICS | YES | N | 11 | 9 | 6 | 5 | 5 | | 5 | 1 | 1 | | 4 | 1 | 1 | | | | | 49 |
| | | % | 20.4 | 18.4 | 14.3 | 13.2 | 20.8 | | 17.2 | 2.9 | 5.0 | | 7.3 | 7.1 | 9.1 | | | | | 10.5 |
| | NO | N | 43 | 40 | 36 | 33 | 19 | 30 | 24 | 33 | 19 | 16 | 51 | 13 | 10 | 21 | 24 | 5 | | 417 |
| | | % | 79.6 | 81.6 | 85.7 | 86.8 | 79.2 | 100.0 | 82.8 | 97.1 | 95.0 | 100.0 | 92.7 | 92.9 | 90.9 | 100.0 | 100.0 | 100.0 | | 89.5 |
| | TOTAL | N | 54 | 49 | 42 | 38 | 24 | 30 | 29 | 34 | 20 | 16 | 55 | 14 | 11 | 21 | 24 | 5 | | 466 |
| CHEMISTRY | YES | N | 6 | 6 | 12 | 9 | 4 | 9 | 3 | 5 | 3 | 4 | 6 | | | 2 | | | | 69 |
| | | % | 9.7 | 10.2 | 26.1 | 16.4 | 18.2 | 17.6 | 10.0 | 21.7 | 10.3 | 21.1 | 9.7 | | | 18.0 | | | | 12.3 |
| | NO | N | 56 | 53 | 34 | 46 | 18 | 42 | 27 | 18 | 26 | 15 | 56 | 21 | 29 | 18 | 22 | 13 | | 494 |
| | | % | 90.3 | 89.8 | 73.9 | 83.6 | 81.8 | 82.4 | 90.0 | 78.3 | 89.7 | 78.9 | 90.3 | 100.0 | 100.0 | 90.0 | 100.0 | 100.0 | | 87.7 |
| | TOTAL | N | 62 | 59 | 46 | 55 | 22 | 51 | 30 | 23 | 29 | 19 | 62 | 21 | 29 | 20 | 22 | 13 | | 563 |
| GEOSCIENCES | YES | N | 2 | 2 | | 3 | 1 | 1 | 2 | 1 | 1 | 2 | | | | 1 | | | | 16 |
| | | % | 11.8 | 10.5 | | 10.0 | 7.1 | 5.3 | 11.1 | 6.3 | 9.1 | 20.0 | | | | 6.7 | | | | 6.5 |
| | NO | N | 15 | 17 | 18 | 27 | 13 | 18 | 16 | 15 | 10 | 8 | 18 | 13 | 12 | 14 | 11 | 4 | | 229 |
| | | % | 88.2 | 89.5 | 100.0 | 90.0 | 92.9 | 94.7 | 88.9 | 93.8 | 90.9 | 80.0 | 100.0 | 100.0 | 100.0 | 93.3 | 100.0 | 100.0 | | 93.5 |
| | TOTAL | N | 17 | 19 | 18 | 30 | 14 | 19 | 18 | 16 | 11 | 10 | 18 | 13 | 12 | 15 | 11 | 4 | | 245 |
| ENGINEERING | YES | N | | | 2 | 1 | | 1 | | 1 | 2 | 1 | | | | | | | | 8 |
| | | % | | | 9.1 | 2.8 | | 2.2 | | 3.0 | 8.0 | 4.2 | | | | | | | | 1.9 |
| | NO | N | 27 | 21 | 20 | 35 | 27 | 44 | 36 | 32 | 23 | 23 | 47 | 14 | 12 | 19 | 25 | 9 | | 413 |
| | | % | 100.0 | 100.0 | 90.9 | 97.2 | 100.0 | 97.8 | 100.0 | 97.0 | 92.0 | 95.8 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 98.1 |
| | TOTAL | N | 27 | 21 | 22 | 36 | 27 | 45 | 36 | 33 | 25 | 23 | 47 | 14 | 12 | 19 | 25 | 9 | | 421 |
| EMP TOTAL | YES | N | 26 | 20 | 22 | 20 | 11 | 12 | 12 | 10 | 8 | 7 | 10 | 2 | 1 | 3 | | | | 164 |
| | | % | 13.8 | 12.0 | 15.3 | 10.6 | 10.1 | 7.2 | 8.0 | 7.9 | 7.5 | 8.8 | 4.1 | 2.9 | 1.1 | 2.9 | | | | 7.8 |
| | NO | N | 162 | 147 | 122 | 169 | 98 | 154 | 138 | 117 | 99 | 73 | 232 | 87 | 92 | 101 | 106 | 40 | | 1937 |
| | | % | 86.2 | 88.0 | 84.7 | 89.4 | 89.9 | 92.8 | 92.0 | 92.1 | 92.5 | 91.3 | 95.9 | 97.8 | 98.9 | 97.1 | 100.0 | 100.0 | | 92.2 |
| | TOTAL | N | 188 | 167 | 144 | 189 | 109 | 166 | 150 | 127 | 107 | 80 | 242 | 89 | 93 | 104 | 106 | 40 | | 2101 |
| BIOSCIENCES | YES | N | 14 | 6 | 8 | 10 | 4 | 7 | 4 | 5 | 3 | 1 | 4 | 1 | 3 | | | | | 70 |
| | | % | 19.4 | 6.6 | 12.5 | 14.7 | 12.1 | 13.7 | 8.9 | 11.4 | 8.8 | 4.8 | 5.1 | 3.7 | 6.1 | | | | | 8.7 |
| | NO | N | 58 | 85 | 56 | 50 | 29 | 44 | 41 | 39 | 31 | 20 | 74 | 26 | 46 | 44 | 63 | 26 | 1 | 733 |
| | | % | 80.6 | 93.4 | 87.5 | 83.3 | 87.9 | 86.3 | 91.1 | 88.6 | 91.2 | 95.2 | 94.9 | 96.3 | 93.9 | 100.0 | 100.0 | 100.0 | 100.0 | 91.3 |
| | TOTAL | N | 72 | 91 | 64 | 60 | 33 | 51 | 45 | 44 | 34 | 21 | 78 | 27 | 49 | 44 | 63 | 26 | 1 | 803 |
| PSYCHOLOGY | YES | N | | 2 | 2 | 2 | | | 1 | | 1 | | | | | 1 | | | | 9 |
| | | % | | 12.5 | 20.0 | 20.0 | | | 10.0 | | 12.5 | | | | | 16.7 | | | | 6.0 |
| | NO | N | 4 | 14 | 8 | 8 | 5 | 12 | 9 | 8 | 7 | 7 | 8 | 5 | 4 | 5 | 23 | 13 | | 140 |
| | | % | 100.0 | 87.5 | 80.0 | 80.0 | 100.0 | 100.0 | 90.0 | 100.0 | 87.5 | 100.0 | 100.0 | 100.0 | 100.0 | 83.3 | 100.0 | 100.0 | | 94.0 |
| | TOTAL | N | 4 | 16 | 10 | 10 | 5 | 12 | 10 | 8 | 8 | 7 | 8 | 5 | 4 | 6 | 23 | 13 | | 149 |
| SOC SCI & OTH | YES | N | | | 4 | 4 | 1 | 2 | | | | | 2 | | | | | | | 13 |
| | | % | | | 25.0 | 18.2 | 12.5 | 11.1 | | | | | 4.5 | | | | | | | 3.3 |
| | NO | N | | 3 | 12 | 18 | 7 | 16 | 23 | 24 | 27 | 27 | 42 | 30 | 28 | 32 | 70 | 26 | | 385 |
| | | % | | 100.0 | 75.0 | 81.8 | 87.5 | 88.9 | 100.0 | 100.0 | 100.0 | 100.0 | 95.5 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 96.7 |
| | TOTAL | N | | 3 | 16 | 22 | 8 | 18 | 23 | 24 | 27 | 27 | 44 | 30 | 28 | 32 | 70 | 26 | | 398 |
| BIO/BEH TOTAL | YES | N | 14 | 8 | 14 | 16 | 5 | 9 | 5 | 5 | 4 | 1 | 6 | 1 | 3 | 1 | | | | 92 |
| | | % | 18.4 | 7.3 | 15.6 | 17.4 | 10.9 | 11.1 | 6.4 | 6.6 | 5.8 | 1.8 | 4.6 | 1.6 | 3.7 | 1.2 | | | | 6.8 |
| | NO | N | 62 | 102 | 76 | 76 | 41 | 72 | 73 | 71 | 65 | 54 | 124 | 61 | 78 | 81 | 156 | 65 | 1 | 1258 |
| | | % | 81.6 | 92.7 | 84.4 | 82.6 | 89.1 | 88.9 | 93.6 | 93.4 | 94.2 | 98.2 | 96.4 | 98.4 | 96.3 | 98.8 | 100.0 | 100.0 | 100.0 | 93.2 |
| | TOTAL | N | 76 | 110 | 90 | 92 | 46 | 81 | 78 | 76 | 69 | 55 | 130 | 62 | 81 | 82 | 156 | 65 | 1 | 1350 |
| GRAND TOTAL | YES | N | 40 | 28 | 36 | 36 | 16 | 21 | 17 | 15 | 12 | 8 | 16 | 3 | 4 | 4 | | | | 256 |
| | | % | 15.2 | 10.1 | 15.4 | 12.8 | 10.3 | 8.5 | 7.5 | 7.4 | 6.8 | 5.9 | 4.3 | 2.0 | 2.3 | 2.2 | | | | 7.4 |
| | NO | N | 224 | 249 | 198 | 245 | 139 | 226 | 211 | 188 | 164 | 127 | 356 | 148 | 170 | 182 | 262 | 105 | 1 | 3195 |
| | | % | 84.8 | 89.9 | 84.6 | 87.2 | 89.7 | 91.5 | 92.5 | 92.6 | 93.2 | 94.1 | 95.7 | 98.0 | 97.7 | 97.8 | 100.0 | 100.0 | 100.0 | 92.6 |
| | TOTAL | N | 264 | 277 | 234 | 281 | 155 | 247 | 228 | 203 | 176 | 135 | 372 | 151 | 174 | 186 | 262 | 105 | 1 | 3451 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

## NSF Postdoctoral Awards, by Cohort and Level of NSF Graduate Fellowship Awards: Terminal Level*

| FLD OF APPLIC | NSF F? | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
| MATHEMATICS | YES | N | 2 | 3 | 1 | 1 | | | | | | | 1 | | | | 1 | | | 9 |
| | | % | 10.0 | 42.9 | 33.3 | 20.0 | | | | | | | 3.2 | | | | 12.5 | | | 6.5 |
| | NO | N | 18 | 4 | 2 | 4 | 4 | 6 | 5 | 5 | 2 | 2 | 30 | 8 | 11 | 13 | 7 | 8 | | 120 |
| | | % | 90.0 | 57.1 | 66.7 | 80.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 96.8 | 100.0 | 100.0 | 100.0 | 87.5 | 100.0 | | 93.5 |
| | TOTAL | N | 20 | 7 | 3 | 5 | 4 | 6 | 5 | 5 | 2 | 2 | 31 | 8 | 11 | 13 | 8 | 8 | | 138 |
| PHYSICS | YES | N | 13 | 6 | 2 | 3 | 1 | | | | | | 1 | 1 | | | | | | 27 |
| | | % | 18.8 | 22.2 | 25.0 | 27.3 | 10.0 | | | | | | 9.1 | 12.5 | | | | | | 14.1 |
| | NO | N | 56 | 21 | 6 | 8 | 9 | 8 | 7 | 5 | 5 | 1 | 10 | 7 | 3 | 11 | 8 | | | 165 |
| | | % | 81.2 | 77.8 | 75.0 | 72.7 | 90.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 90.9 | 87.5 | 100.0 | 100.0 | 100.0 | | | 85.9 |
| | TOTAL | N | 69 | 27 | 8 | 11 | 10 | 8 | 7 | 5 | 5 | 1 | 11 | 8 | 3 | 11 | 8 | | | 192 |
| CHEMISTRY | YES | N | 2 | 3 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | | 2 | | 2 | 2 | | | | 25 |
| | | % | 3.6 | 8.8 | 16.7 | 16.7 | 28.6 | 11.1 | 14.3 | 14.3 | 14.3 | | 16.7 | | 66.7 | 40.0 | | | | 11.6 |
| | NO | N | 53 | 31 | 20 | 15 | 5 | 16 | 6 | 6 | 6 | | 10 | 4 | 1 | 3 | 11 | | | 190 |
| | | % | 96.4 | 91.2 | 83.3 | 83.3 | 71.4 | 88.9 | 85.7 | 85.7 | 85.7 | 100.0 | 83.3 | 100.0 | 33.3 | 60.0 | 100.0 | | | 88.4 |
| | TOTAL | N | 55 | 34 | 24 | 18 | 7 | 18 | 7 | 7 | 7 | 3 | 12 | 4 | 3 | 5 | 11 | | | 215 |
| GEOSCIENCES | YES | N | | 1 | 1 | | | | | | | | | | | | | | | 2 |
| | | % | | 10.0 | 11.1 | | | | | | | | | | | | | | | 2.2 |
| | NO | N | 18 | 9 | 8 | 6 | 2 | 7 | 6 | 6 | 2 | 6 | 4 | 3 | 2 | 8 | 2 | | | 89 |
| | | % | 100.0 | 90.0 | 88.9 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | 97.8 |
| | TOTAL | N | 18 | 10 | 9 | 6 | 2 | 7 | 6 | 6 | 2 | 6 | 4 | 3 | 2 | 8 | 2 | | | 91 |
| ENGINEERING | YES | N | | 3 | | | 1 | | | | | | 1 | | | 1 | | | | 6 |
| | | % | | 12.5 | | | 14.3 | | | | | | 8.3 | | | 5.9 | | | | 3.5 |
| | NO | N | 22 | 21 | 8 | 10 | 6 | 14 | 10 | 8 | 8 | 3 | 11 | 11 | 9 | 16 | 5 | 3 | | 164 |
| | | % | 100.0 | 87.5 | 100.0 | 100.0 | 85.7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 91.7 | 100.0 | 100.0 | 94.1 | 100.0 | 100.0 | | 96.5 |
| | TOTAL | N | 21 | 24 | 8 | 10 | 7 | 14 | 10 | 8 | 8 | 3 | 12 | 11 | 9 | 17 | 5 | 3 | | 170 |
| EMP TOTAL | YES | N | 17 | 16 | 8 | 7 | 4 | 2 | 1 | 1 | 1 | | 5 | 1 | 2 | 3 | 1 | | | 69 |
| | | % | 9.3 | 15.7 | 15.4 | 14.0 | 13.3 | 3.8 | 2.9 | 3.2 | 4.2 | | 7.1 | 2.9 | 7.1 | 5.6 | 2.9 | | | 8.9 |
| | NO | N | 166 | 86 | 44 | 43 | 26 | 51 | 34 | 30 | 23 | 15 | 65 | 33 | 26 | 51 | 33 | 11 | | 737 |
| | | % | 90.7 | 84.3 | 84.6 | 86.0 | 86.7 | 96.2 | 97.1 | 96.8 | 95.8 | 100.0 | 92.9 | 97.1 | 92.9 | 94.4 | 97.1 | 100.0 | | 91.4 |
| | TOTAL | N | 183 | 102 | 52 | 50 | 30 | 53 | 35 | 31 | 24 | 15 | 70 | 34 | 28 | 54 | 34 | 11 | | 806 |
| BIOSCIENCES | YES | N | 8 | 3 | 4 | 4 | | 1 | 1 | | | 1 | 2 | | 1 | | 1 | | | 26 |
| | | % | 9.3 | 6.8 | 13.8 | 18.2 | | 9.1 | 8.3 | | | 16.7 | 16.7 | | 11.1 | | 5.9 | | | 8.6 |
| | NO | N | 78 | 41 | 25 | 18 | 3 | 10 | 11 | 5 | 6 | 5 | 10 | 5 | 8 | 25 | 17 | 11 | | 278 |
| | | % | 90.7 | 93.2 | 86.2 | 81.8 | 100.0 | 90.9 | 91.7 | 100.0 | 100.0 | 83.3 | 83.3 | 100.0 | 88.9 | 100.0 | 94.4 | 100.0 | | 91.4 |
| | TOTAL | N | 86 | 44 | 29 | 22 | 3 | 11 | 12 | 5 | 6 | 6 | 12 | 5 | 9 | 25 | 18 | 11 | | 304 |
| PSYCHOLOGY | YES | N | | 3 | 2 | | | | | | | 1 | | | | | | | | 6 |
| | | % | | 27.3 | 40.0 | | | | | | | 50.0 | | | | | | | | 9.2 |
| | NO | N | 4 | 8 | 3 | 4 | 1 | 3 | 3 | 6 | 2 | 1 | 7 | 3 | | 7 | 5 | 2 | | 59 |
| | | % | 100.0 | 72.7 | 60.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 50.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 90.8 |
| | TOTAL | N | 4 | 11 | 5 | 4 | 1 | 3 | 3 | 6 | 2 | 2 | 7 | 3 | | 7 | 5 | 2 | | 65 |
| SOC SCI & OTH | YES | N | 1 | | | | | 1 | | | | | 1 | | | 1 | | | | 4 |
| | | % | 33.3 | | | | | 20.0 | | | | | 5.0 | | | 6.7 | | | | 3.4 |
| | NO | N | 2 | 1 | 7 | 3 | 3 | 4 | 6 | 6 | 6 | 3 | 19 | 12 | 14 | 14 | 11 | 4 | | 115 |
| | | % | 66.7 | 100.0 | 100.0 | 100.0 | 100.0 | 80.0 | 100.0 | 100.0 | 100.0 | 100.0 | 95.0 | 100.0 | 100.0 | 93.3 | 100.0 | 100.0 | | 96.6 |
| | TOTAL | N | 3 | 1 | 7 | 3 | 3 | 5 | 6 | 6 | 6 | 3 | 20 | 12 | 14 | 15 | 11 | 4 | | 119 |
| BIO/BEH TOTAL | YES | N | 9 | 6 | 6 | 4 | | 2 | 1 | | | 2 | 3 | | 1 | 1 | 1 | | | 36 |
| | | % | 9.7 | 10.7 | 14.6 | 13.8 | | 10.5 | 4.8 | | | 18.2 | 7.7 | | 4.3 | 2.1 | 2.9 | | | 7.4 |
| | NO | N | 84 | 50 | 35 | 25 | 7 | 17 | 20 | 17 | 14 | 9 | 36 | 20 | 22 | 46 | 33 | 17 | | 452 |
| | | % | 90.3 | 89.3 | 85.4 | 86.2 | 100.0 | 89.5 | 95.2 | 100.0 | 100.0 | 81.8 | 92.3 | 100.0 | 95.7 | 97.9 | 97.1 | 100.0 | | 92.6 |
| | TOTAL | N | 93 | 56 | 41 | 29 | 7 | 19 | 21 | 17 | 14 | 11 | 39 | 20 | 23 | 47 | 34 | 17 | | 488 |
| GRAND TOTAL | YES | N | 26 | 22 | 14 | 11 | 4 | 4 | 2 | 1 | 1 | 2 | 8 | 1 | 3 | 4 | 2 | | | 105 |
| | | % | 9.4 | 13.9 | 15.1 | 13.9 | 10.8 | 5.6 | 3.6 | 2.1 | 2.6 | 7.7 | 7.3 | 1.9 | 5.9 | 4.0 | 2.9 | | | 8.1 |
| | NO | N | 250 | 136 | 79 | 68 | 33 | 68 | 54 | 47 | 37 | 24 | 101 | 53 | 48 | 97 | 66 | 28 | | 1169 |
| | | % | 90.6 | 86.1 | 84.9 | 86.1 | 89.2 | 94.4 | 96.4 | 97.9 | 97.4 | 92.3 | 92.7 | 98.1 | 94.1 | 96.0 | 97.1 | 100.0 | | 91.9 |
| | TOTAL | N | 276 | 158 | 93 | 79 | 37 | 72 | 56 | 48 | 38 | 26 | 109 | 54 | 51 | 101 | 68 | 28 | | 1274 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Inclusion in National Faculty Directory of NSF Graduate Fellows, by Cohort and Level of Award: First Year Level*

| | | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLD OF APPLIC | NFD? | | 1952 -53 | 1954 -55 | 1956 -57 | 1958 -59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
| MATHEMATICS | YES | N | 11 | 18 | 26 | 33 | 20 | 37 | 46 | 42 | 40 | 40 | 48 | 22 | 17 | 9 | 5 | 1 | | 415 |
| | | % | 32.4 | 47.4 | 40.6 | 39.8 | 37.7 | 38.1 | 40.0 | 34.4 | 35.1 | 46.0 | 29.4 | 17.5 | 15.5 | 6.6 | 3.5 | 1.3 | | 25.6 |
| | NO | N | 23 | 20 | 38 | 50 | 33 | 60 | 69 | 80 | 74 | 47 | 115 | 104 | 93 | 128 | 136 | 76 | 62 | 1208 |
| | | % | 67.6 | 52.6 | 59.4 | 60.2 | 62.3 | 61.9 | 60.0 | 65.6 | 64.9 | 54.0 | 70.6 | 82.5 | 84.5 | 93.4 | 96.5 | 98.7 | 100.0 | 74.4 |
| | TOTAL | N | 34 | 38 | 64 | 83 | 53 | 97 | 115 | 122 | 114 | 87 | 163 | 126 | 110 | 137 | 141 | 77 | 62 | 1623 |
| PHYSICS | YES | N | 21 | 38 | 27 | 43 | 26 | 18 | 32 | 28 | 19 | 8 | 24 | 5 | 5 | 4 | | 1 | 2 | 301 |
| | | % | 26.9 | 34.5 | 25.2 | 27.9 | 30.6 | 17.6 | 25.4 | 29.8 | 21.3 | 13.3 | 22.9 | 6.6 | 6.6 | 4.5 | | 2.4 | 5.9 | 20.0 |
| | NO | N | 57 | 72 | 80 | 111 | 59 | 84 | 94 | 66 | 70 | 52 | 81 | 71 | 71 | 85 | 80 | 40 | 32 | 1205 |
| | | % | 73.1 | 65.5 | 74.8 | 72.1 | 69.4 | 82.4 | 74.6 | 70.2 | 78.7 | 86.7 | 77.1 | 93.4 | 93.4 | 95.5 | 100.0 | 97.6 | 94.1 | 80.0 |
| | TOTAL | N | 78 | 110 | 107 | 154 | 85 | 102 | 126 | 94 | 89 | 60 | 105 | 76 | 76 | 89 | 80 | 41 | 34 | 1506 |
| CHEMISTRY | YES | N | 22 | 35 | 31 | 28 | 19 | 14 | 27 | 16 | 17 | 15 | 14 | 10 | 4 | 3 | 1 | | | 256 |
| | | % | 25.0 | 31.5 | 31.6 | 25.5 | 32.8 | 22.2 | 33.8 | 25.0 | 26.6 | 22.1 | 18.2 | 17.2 | 6.0 | 4.1 | 1.3 | | | 21.0 |
| | NO | N | 66 | 76 | 67 | 82 | 39 | 49 | 53 | 48 | 42 | 53 | 63 | 48 | 63 | 71 | 76 | 33 | 36 | 965 |
| | | % | 75.0 | 68.5 | 68.4 | 74.5 | 67.2 | 77.8 | 66.3 | 75.0 | 71.2 | 77.9 | 81.8 | 82.8 | 94.0 | 95.9 | 98.7 | 100.0 | 100.0 | 79.0 |
| | TOTAL | N | 88 | 111 | 98 | 110 | 58 | 63 | 80 | 64 | 59 | 68 | 77 | 58 | 67 | 74 | 77 | 33 | 36 | 1221 |
| GEOSCIENCES | YES | N | 2 | 2 | 7 | 9 | 3 | 6 | 3 | 3 | 5 | 4 | 4 | 1 | 1 | | | | | 50 |
| | | % | 11.8 | 14.3 | 33.3 | 29.0 | 21.4 | 35.3 | 20.0 | 33.3 | 33.3 | 33.3 | 20.0 | 11.1 | 12.5 | | | | | 17.7 |
| | NO | N | 15 | 12 | 14 | 22 | 11 | 11 | 12 | 6 | 10 | 8 | 16 | 8 | 7 | 17 | 30 | 13 | 20 | 232 |
| | | % | 88.2 | 85.7 | 66.7 | 71.0 | 78.6 | 64.7 | 80.0 | 66.7 | 66.7 | 66.7 | 80.0 | 88.9 | 87.5 | 100.0 | 100.0 | 100.0 | 100.0 | 82.3 |
| | TOTAL | N | 17 | 14 | 21 | 31 | 14 | 17 | 15 | 9 | 15 | 12 | 20 | 9 | 8 | 17 | 30 | 13 | 20 | 282 |
| ENGINEERING | YES | N | 6 | 13 | 24 | 24 | 16 | 8 | 10 | 9 | 7 | 11 | 11 | 7 | 3 | 3 | 3 | 1 | 3 | 159 |
| | | % | 11.3 | 15.3 | 27.3 | 20.3 | 25.8 | 9.9 | 12.0 | 12.9 | 8.1 | 13.9 | 9.7 | 7.7 | 4.1 | 5.3 | 4.5 | 1.5 | 3.5 | 11.7 |
| | NO | N | 47 | 72 | 64 | 94 | 46 | 73 | 73 | 61 | 79 | 68 | 102 | 84 | 71 | 54 | 63 | 64 | 83 | 1198 |
| | | % | 88.7 | 84.7 | 72.7 | 79.7 | 74.2 | 90.1 | 88.0 | 87.1 | 91.9 | 86.1 | 90.3 | 92.3 | 95.9 | 94.7 | 95.5 | 98.5 | 96.5 | 88.3 |
| | TOTAL | N | 53 | 85 | 88 | 118 | 62 | 81 | 83 | 70 | 86 | 79 | 113 | 91 | 74 | 57 | 66 | 65 | 86 | 1357 |
| EMP TOTAL | YES | N | 62 | 106 | 115 | 137 | 84 | 83 | 118 | 98 | 88 | 78 | 101 | 45 | 30 | 19 | 9 | 3 | 5 | 1181 |
| | | % | 23.0 | 29.6 | 30.4 | 27.6 | 30.9 | 23.1 | 28.2 | 27.3 | 24.2 | 25.5 | 21.1 | 12.5 | 9.0 | 5.1 | 2.3 | 1.3 | 2.1 | 19.7 |
| | NO | N | 208 | 252 | 263 | 359 | 188 | 277 | 301 | 261 | 275 | 228 | 377 | 315 | 305 | 355 | 385 | 226 | 233 | 4808 |
| | | % | 77.0 | 70.4 | 69.6 | 72.4 | 69.1 | 76.9 | 71.8 | 72.7 | 75.8 | 74.5 | 78.9 | 87.5 | 91.0 | 94.9 | 97.7 | 98.7 | 97.9 | 80.3 |
| | TOTAL | N | 270 | 358 | 378 | 496 | 272 | 360 | 419 | 359 | 363 | 306 | 478 | 360 | 335 | 374 | 394 | 229 | 238 | 5989 |
| BIOSCIENCES | YES | N | 17 | 24 | 25 | 30 | 16 | 20 | 27 | 17 | 22 | 19 | 17 | 6 | 5 | 1 | 2 | 2 | 1 | 251 |
| | | % | 29.3 | 36.4 | 31.3 | 30.3 | 37.2 | 24.1 | 32.5 | 27.9 | 27.8 | 22.9 | 16.8 | 9.0 | 5.3 | 1.0 | 1.9 | 2.6 | .9 | 18.1 |
| | NO | N | 41 | 42 | 55 | 69 | 27 | 63 | 56 | 44 | 57 | 64 | 84 | 61 | 89 | 95 | 102 | 74 | 114 | 1137 |
| | | % | 70.7 | 63.6 | 68.8 | 69.7 | 62.8 | 75.9 | 67.5 | 72.1 | 72.2 | 77.1 | 83.2 | 91.0 | 94.7 | 99.0 | 98.1 | 97.4 | 99.1 | 81.9 |
| | TOTAL | N | 58 | 66 | 80 | 99 | 43 | 83 | 83 | 61 | 79 | 83 | 101 | 67 | 94 | 96 | 104 | 76 | 115 | 1388 |
| PSYCHOLOGY | YES | N | 1 | 2 | 3 | 4 | 2 | 2 | 11 | 6 | 14 | 5 | 12 | 5 | 6 | 2 | 1 | 1 | | 77 |
| | | % | 50.0 | 22.2 | 25.0 | 28.6 | 28.6 | 16.7 | 47.8 | 27.3 | 48.3 | 23.8 | 32.4 | 14.7 | 23.1 | 9.1 | 2.6 | 2.9 | | 20.1 |
| | NO | N | 1 | 7 | 9 | 10 | 5 | 10 | 12 | 16 | 15 | 16 | 25 | 29 | 20 | 20 | 37 | 33 | 42 | 307 |
| | | % | 50.0 | 77.8 | 75.0 | 71.4 | 71.4 | 83.3 | 52.2 | 72.7 | 51.7 | 76.2 | 67.6 | 85.3 | 76.9 | 90.9 | 97.4 | 97.1 | 100.0 | 79.9 |
| | TOTAL | N | 2 | 9 | 12 | 14 | 7 | 12 | 23 | 22 | 29 | 21 | 37 | 34 | 26 | 22 | 38 | 34 | 42 | 384 |
| SOC SCI & OTH | YES | N | | | 2 | | 4 | 5 | 10 | 8 | 13 | 12 | 19 | 14 | 9 | 7 | 9 | 1 | | 113 |
| | | % | | | 33.3 | | 66.7 | 41.7 | 38.5 | 42.1 | 35.1 | 25.0 | 25.0 | 29.2 | 19.6 | 10.9 | 7.4 | 1.0 | | 15.4 |
| | NO | N | 1 | 2 | 4 | 10 | 2 | 7 | 16 | 11 | 24 | 36 | 57 | 34 | 37 | 57 | 113 | 99 | 110 | 620 |
| | | % | 100.0 | 100.0 | 66.7 | 100.0 | 33.3 | 58.3 | 61.5 | 57.9 | 64.9 | 75.0 | 75.0 | 70.8 | 80.4 | 89.1 | 92.6 | 99.0 | 100.0 | 84.6 |
| | TOTAL | N | 1 | 2 | 6 | 10 | 6 | 12 | 26 | 19 | 37 | 48 | 76 | 48 | 46 | 64 | 122 | 100 | 110 | 733 |
| BIO/BEH TOTAL | YES | N | 18 | 26 | 30 | 34 | 22 | 27 | 48 | 31 | 49 | 36 | 48 | 25 | 20 | 10 | 12 | 4 | 1 | 441 |
| | | % | 29.5 | 33.8 | 30.6 | 27.6 | 39.3 | 25.2 | 36.4 | 30.4 | 33.8 | 23.7 | 22.4 | 16.8 | 12.0 | 5.5 | 4.5 | 1.9 | .4 | 17.6 |
| | NO | N | 43 | 51 | 68 | 89 | 34 | 80 | 84 | 71 | 96 | 116 | 166 | 124 | 146 | 172 | 252 | 206 | 266 | 2064 |
| | | % | 70.5 | 66.2 | 69.4 | 72.4 | 60.7 | 74.8 | 63.6 | 69.6 | 66.2 | 76.3 | 77.6 | 83.2 | 88.0 | 94.5 | 95.5 | 98.1 | 99.6 | 82.4 |
| | TOTAL | N | 61 | 77 | 98 | 123 | 56 | 107 | 132 | 102 | 145 | 152 | 214 | 149 | 166 | 182 | 264 | 210 | 267 | 2505 |
| GRAND TOTAL | YES | N | 80 | 132 | 145 | 171 | 106 | 110 | 166 | 129 | 137 | 114 | 149 | 70 | 50 | 29 | 21 | 7 | 6 | 1622 |
| | | % | 24.2 | 30.3 | 30.5 | 27.6 | 32.3 | 23.6 | 30.1 | 28.0 | 27.0 | 24.9 | 21.5 | 13.8 | 10.0 | 5.2 | 3.2 | 1.6 | 1.2 | 19.1 |
| | NO | N | 251 | 303 | 331 | 448 | 222 | 357 | 385 | 332 | 371 | 344 | 541 | 437 | 451 | 527 | 637 | 432 | 499 | 6872 |
| | | % | 75.8 | 69.7 | 69.5 | 72.4 | 67.7 | 76.4 | 69.9 | 72.0 | 73.0 | 75.1 | 78.5 | 86.2 | 90.0 | 94.8 | 96.8 | 98.4 | 98.8 | 80.9 |
| | TOTAL | N | 331 | 435 | 476 | 619 | 328 | 467 | 551 | 461 | 508 | 458 | 692 | 509 | 501 | 556 | 658 | 439 | 505 | 8494 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Inclusion in National Faculty Directory of NSF Graduate Fellows, by Cohort and Level of Award: Intermediate Level*

| | | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLD OF APPLIC | NFD? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
| MATHEMATICS | YES | N | 15 | 7 | 9 | 14 | 10 | 8 | 15 | 11 | 12 | 6 | 33 | 6 | 6 | 6 | 1 | 1 | | 160 |
| | | % | 53.6 | 36.8 | 56.3 | 46.7 | 45.5 | 38.1 | 40.5 | 52.4 | 54.5 | 50.0 | 55.0 | 22.2 | 20.7 | 20.7 | 4.2 | 11.1 | | 39.4 |
| | NO | N | 13 | 12 | 7 | 16 | 12 | 13 | 22 | 10 | 10 | 6 | 27 | 21 | 23 | 23 | 23 | 8 | | 246 |
| | | % | 46.4 | 63.2 | 43.8 | 53.3 | 54.5 | 61.9 | 59.5 | 47.6 | 45.5 | 50.0 | 45.0 | 77.8 | 79.3 | 79.3 | 95.8 | 88.9 | | 60.6 |
| | TOTAL | N | 28 | 19 | 16 | 30 | 22 | 21 | 37 | 21 | 22 | 12 | 60 | 27 | 29 | 29 | 24 | 9 | | 406 |
| PHYSICS | YES | N | 17 | 20 | 18 | 13 | 7 | 13 | 10 | 9 | 7 | 1 | 11 | | | 2 | 3 | | | 131 |
| | | % | 31.5 | 40.8 | 42.9 | 34.2 | 29.2 | 43.3 | 34.5 | 26.5 | 35.0 | 6.3 | 20.0 | | | 9.5 | 12.5 | | | 28.1 |
| | NO | N | 37 | 29 | 24 | 25 | 17 | 17 | 19 | 25 | 13 | 15 | 44 | 14 | 11 | 19 | 21 | 5 | | 335 |
| | | % | 68.5 | 59.2 | 57.1 | 65.8 | 70.8 | 56.7 | 65.5 | 73.5 | 65.0 | 93.8 | 80.0 | 100.0 | 100.0 | 90.5 | 87.5 | 100.0 | | 71.9 |
| | TOTAL | N | 54 | 49 | 42 | 38 | 24 | 30 | 29 | 34 | 20 | 16 | 55 | 14 | 11 | 21 | 24 | 5 | | 456 |
| CHEMISTRY | YES | N | 15 | 14 | 12 | 19 | 10 | 16 | 7 | 7 | 11 | 9 | 15 | 6 | 5 | 2 | 1 | | | 149 |
| | | % | 24.2 | 23.7 | 26.1 | 34.5 | 45.5 | 31.4 | 23.3 | 30.4 | 37.9 | 47.4 | 24.2 | 28.6 | 17.2 | 10.0 | 4.5 | | | 26.5 |
| | NO | N | 47 | 45 | 34 | 36 | 12 | 35 | 23 | 16 | 18 | 10 | 47 | 15 | 24 | 18 | 21 | 13 | | 414 |
| | | % | 75.8 | 76.3 | 73.9 | 65.5 | 54.5 | 68.6 | 76.7 | 69.6 | 62.1 | 52.6 | 75.8 | 71.4 | 82.8 | 90.0 | 95.5 | 100.0 | | 73.5 |
| | TOTAL | N | 62 | 59 | 46 | 55 | 22 | 51 | 30 | 23 | 29 | 19 | 62 | 21 | 29 | 20 | 22 | 13 | | 563 |
| GEOSCIENCES | YES | N | 4 | 10 | 8 | 8 | 6 | 7 | 5 | 6 | 2 | 2 | 5 | 3 | 2 | 3 | 2 | | | 72 |
| | | % | 23.5 | 52.6 | 44.4 | 26.7 | 42.9 | 36.8 | 27.8 | 37.5 | 18.2 | 10.0 | 27.8 | 23.1 | 16.7 | 20.0 | 18.2 | | | 29.4 |
| | NO | N | 13 | 9 | 10 | 22 | 8 | 12 | 13 | 10 | 9 | 9 | 13 | 10 | 10 | 12 | 9 | 4 | | 173 |
| | | % | 76.5 | 47.4 | 55.6 | 73.3 | 57.1 | 63.2 | 72.2 | 62.5 | 81.9 | 90.0 | 72.2 | 76.9 | 83.3 | 80.0 | 81.8 | 100.0 | | 70.6 |
| | TOTAL | N | 17 | 19 | 18 | 30 | 14 | 19 | 18 | 16 | 11 | 10 | 18 | 13 | 12 | 15 | 11 | 4 | | 245 |
| ENGINEERING | YES | N | 8 | 10 | 7 | 12 | 6 | 6 | 7 | 7 | 1 | 4 | 3 | 4 | 2 | 2 | | | | 79 |
| | | % | 29.6 | 47.6 | 31.8 | 33.3 | 22.2 | 13.3 | 19.4 | 21.2 | 4.0 | 17.4 | 6.4 | 28.6 | 16.7 | 10.5 | | | | 18.8 |
| | NO | N | 19 | 11 | 15 | 24 | 21 | 39 | 29 | 26 | 24 | 19 | 44 | 10 | 10 | 17 | 25 | 9 | | 345 |
| | | % | 70.4 | 52.4 | 68.2 | 66.7 | 77.8 | 86.7 | 80.6 | 78.8 | 96.0 | 82.6 | 93.6 | 71.4 | 83.3 | 89.5 | 100.0 | 100.0 | | 81.2 |
| | TOTAL | N | 27 | 21 | 22 | 36 | 27 | 45 | 36 | 33 | 25 | 23 | 47 | 14 | 12 | 19 | 25 | 9 | | 421 |
| EMP TOTAL | YES | N | 59 | 61 | 54 | 66 | 39 | 50 | 44 | 40 | 33 | 21 | 67 | 19 | 15 | 15 | 7 | 1 | | 591 |
| | | % | 31.4 | 36.5 | 37.5 | 34.9 | 35.8 | 30.1 | 29.3 | 31.5 | 30.8 | 26.3 | 27.7 | 21.1 | 16.1 | 14.4 | 6.6 | 2.5 | | 28.1 |
| | NO | N | 129 | 106 | 90 | 123 | 70 | 116 | 106 | 87 | 74 | 59 | 175 | 70 | 78 | 89 | 99 | 39 | | 1510 |
| | | % | 68.6 | 63.5 | 62.5 | 65.1 | 64.2 | 69.9 | 70.7 | 68.5 | 69.2 | 73.8 | 72.3 | 78.7 | 83.9 | 85.6 | 93.4 | 97.5 | | 71.9 |
| | TOTAL | N | 188 | 167 | 144 | 189 | 109 | 166 | 150 | 127 | 107 | 80 | 242 | 89 | 93 | 104 | 106 | 40 | | 2101 |
| BIOSCIENCES | YES | N | 40 | 38 | 28 | 24 | 11 | 18 | 16 | 18 | 17 | 4 | 21 | 7 | 5 | 5 | 8 | | | 260 |
| | | % | 55.6 | 41.8 | 43.8 | 40.0 | 33.3 | 35.3 | 35.6 | 40.9 | 50.0 | 19.0 | 26.9 | 25.0 | 10.2 | 11.4 | 12.7 | | | 32.4 |
| | NO | N | 32 | 53 | 36 | 36 | 22 | 33 | 29 | 26 | 17 | 17 | 57 | 20 | 44 | 39 | 55 | 26 | 1 | 543 |
| | | % | 44.4 | 58.2 | 56.3 | 60.0 | 66.7 | 64.7 | 64.4 | 59.1 | 50.0 | 81.0 | 73.1 | 74.1 | 89.8 | 88.6 | 87.3 | 100.0 | 100.0 | 67.6 |
| | TOTAL | N | 72 | 91 | 64 | 60 | 33 | 51 | 45 | 44 | 34 | 21 | 78 | 27 | 49 | 44 | 63 | 26 | 1 | 803 |
| PSYCHOLOGY | YES | N | | 5 | 5 | 3 | | 5 | 4 | 3 | 5 | 4 | 3 | 3 | | 4 | 2 | 1 | | 47 |
| | | % | | 31.3 | 50.0 | 30.0 | | 41.7 | 40.0 | 37.5 | 62.5 | 57.1 | 37.5 | 60.0 | | 66.7 | 8.7 | 7.7 | | 31.5 |
| | NO | N | 4 | 11 | 5 | 7 | 5 | 7 | 6 | 5 | 3 | 3 | 5 | 2 | 4 | 2 | 21 | 12 | | 152 |
| | | % | 100.0 | 68.8 | 50.0 | 70.0 | 100.0 | 58.3 | 60.0 | 62.5 | 37.5 | 42.9 | 62.5 | 40.0 | 100.0 | 33.3 | 91.3 | 92.3 | | 68.5 |
| | TOTAL | N | 4 | 16 | 10 | 10 | 5 | 12 | 10 | 8 | 8 | 7 | 8 | 5 | 4 | 6 | 23 | 13 | | 149 |
| SOC SCI & OTH | YES | N | | 1 | 9 | 9 | 5 | 9 | 8 | 10 | 12 | 7 | 17 | 8 | 13 | 8 | 13 | 1 | | 130 |
| | | % | | 33.3 | 56.3 | 40.9 | 62.5 | 50.0 | 34.8 | 41.7 | 44.4 | 25.9 | 38.6 | 26.7 | 46.4 | 25.0 | 18.6 | 3.8 | | 32.7 |
| | NO | N | 2 | 2 | 7 | 13 | 3 | 9 | 15 | 14 | 15 | 20 | 27 | 22 | 15 | 24 | 57 | 25 | | 268 |
| | | % | | 66.7 | 43.8 | 59.1 | 37.5 | 50.0 | 65.2 | 58.3 | 55.6 | 74.1 | 61.4 | 73.3 | 53.6 | 75.0 | 81.4 | 96.2 | | 67.3 |
| | TOTAL | N | 3 | 3 | 16 | 22 | 8 | 18 | 23 | 24 | 27 | 27 | 44 | 30 | 28 | 32 | 70 | 26 | | 398 |
| BIO/BEH TOTAL | YES | N | 40 | 44 | 42 | 36 | 16 | 32 | 28 | 31 | 34 | 15 | 41 | 18 | 18 | 17 | 23 | 2 | | 437 |
| | | % | 52.6 | 40.0 | 46.7 | 39.1 | 34.8 | 39.5 | 35.9 | 40.8 | 49.3 | 27.3 | 31.5 | 29.0 | 22.2 | 20.7 | 14.7 | 3.1 | | 32.4 |
| | NO | N | 36 | 66 | 48 | 56 | 30 | 49 | 50 | 45 | 35 | 40 | 89 | 44 | 63 | 65 | 133 | 63 | 1 | 913 |
| | | % | 47.4 | 60.0 | 53.3 | 60.9 | 65.2 | 60.5 | 64.1 | 59.2 | 50.7 | 72.7 | 68.5 | 71.0 | 77.8 | 79.3 | 85.3 | 96.9 | 100.0 | 67.6 |
| | TOTAL | N | 76 | 110 | 90 | 92 | 46 | 81 | 78 | 76 | 69 | 55 | 130 | 62 | 81 | 82 | 156 | 65 | 1 | 1350 |
| GRAND TOTAL | YES | N | 99 | 105 | 96 | 102 | 55 | 82 | 72 | 71 | 67 | 36 | 108 | 37 | 33 | 32 | 30 | 3 | | 1028 |
| | | % | 37.5 | 37.9 | 41.0 | 36.3 | 35.5 | 33.2 | 31.6 | 35.0 | 38.1 | 26.7 | 29.0 | 24.5 | 19.0 | 17.2 | 11.5 | 2.9 | | 29.3 |
| | NO | N | 165 | 172 | 138 | 179 | 100 | 165 | 156 | 132 | 109 | 99 | 264 | 114 | 141 | 154 | 232 | 102 | 1 | 2423 |
| | | % | 62.5 | 62.1 | 59.0 | 63.7 | 64.5 | 66.8 | 68.4 | 65.0 | 61.9 | 73.3 | 71.0 | 75.5 | 81.0 | 82.8 | 88.5 | 97.1 | 100.0 | 70.7 |
| | TOTAL | N | 264 | 277 | 234 | 281 | 155 | 247 | 228 | 203 | 176 | 135 | 372 | 151 | 174 | 186 | 262 | 105 | 1 | 3451 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Inclusion in National Faculty Directory of NSF Graduate Fellows, by Cohort and Level of Award: Terminal Level*

| | | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLD OF APPLIC | NFD? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
| MATHEMATICS | YES | N | 7 | 5 | | 2 | 2 | 2 | 4 | 3 | | 1 | 19 | 4 | 2 | 5 | 2 | 1 | | 59 |
| | | % | 35.0 | 71.4 | | 40.0 | 50.0 | 33.3 | 80.0 | 60.0 | | 50.0 | 61.3 | 50.0 | 18.2 | 38.5 | 25.0 | 12.5 | | 42.8 |
| | NO | N | 13 | 2 | 3 | 3 | 2 | 4 | 1 | 2 | 2 | 1 | 12 | 4 | 9 | 8 | 6 | 7 | | 79 |
| | | % | 65.0 | 28.6 | 100.0 | 60.0 | 50.0 | 66.7 | 20.0 | 40.0 | 100.0 | 50.0 | 38.7 | 50.0 | 81.8 | 61.5 | 75.0 | 87.5 | | 57.2 |
| | TOTAL | N | 20 | 7 | 3 | 5 | 4 | 6 | 5 | 5 | 2 | 2 | 31 | 8 | 11 | 13 | 8 | 8 | | 138 |
| PHYSICS | YES | N | 22 | 8 | 2 | 6 | 2 | 1 | 5 | | 2 | | 5 | 2 | | 3 | 1 | | | 59 |
| | | % | 31.9 | 29.6 | 25.0 | 54.5 | 20.0 | 12.5 | 71.4 | | 40.0 | | 45.5 | 25.0 | | 27.3 | 12.5 | | | 30.7 |
| | NO | N | 47 | 19 | 6 | 5 | 8 | 7 | 2 | 5 | 3 | 1 | 6 | 6 | 3 | 8 | 7 | | | 133 |
| | | % | 68.1 | 70.4 | 75.0 | 45.5 | 80.0 | 87.5 | 28.6 | 100.0 | 60.0 | 100.0 | 54.5 | 75.0 | 100.0 | 72.7 | 87.5 | | | 69.3 |
| | TOTAL | N | 69 | 27 | 8 | 11 | 10 | 8 | 7 | 5 | 5 | 1 | 11 | 8 | 3 | 11 | 8 | | | 192 |
| CHEMISTRY | YES | N | 11 | 11 | 5 | 8 | 2 | 7 | 4 | 3 | 2 | 1 | 6 | 1 | 1 | 2 | | | | 64 |
| | | % | 20.0 | 32.4 | 20.8 | 44.4 | 28.6 | 38.9 | 57.1 | 42.9 | 28.6 | 33.3 | 50.0 | 25.0 | 33.3 | 40.0 | | | | 29.8 |
| | NO | N | 44 | 23 | 19 | 10 | 5 | 11 | 3 | 4 | 5 | 2 | 6 | 3 | 2 | 3 | 11 | | | 151 |
| | | % | 80.0 | 67.6 | 79.2 | 55.6 | 71.4 | 61.1 | 42.9 | 57.1 | 71.4 | 66.7 | 50.0 | 75.0 | 66.7 | 60.0 | 100.0 | | | 70.2 |
| | TOTAL | N | 55 | 34 | 24 | 18 | 7 | 18 | 7 | 7 | 7 | 3 | 12 | 4 | 3 | 5 | 11 | | | 215 |
| GEOSCIENCES | YES | N | 8 | 5 | 3 | 1 | | 2 | 2 | 3 | | 2 | 2 | | 1 | 2 | | | | 31 |
| | | % | 44.4 | 50.0 | 33.3 | 16.7 | | 28.6 | 33.3 | 50.0 | | 33.3 | 50.0 | | 50.0 | 25.0 | | | | 34.1 |
| | NO | N | 10 | 5 | 6 | 5 | 2 | 5 | 4 | 3 | 2 | 4 | 2 | 3 | 1 | 6 | 2 | | | 60 |
| | | % | 55.6 | 50.0 | 66.7 | 83.3 | 100.0 | 71.4 | 66.7 | 50.0 | 100.0 | 66.7 | 50.0 | 100.0 | 50.0 | 75.0 | 100.0 | | | 65.9 |
| | TOTAL | N | 18 | 10 | 9 | 6 | 2 | 7 | 6 | 6 | 2 | 6 | 4 | 3 | 2 | 8 | 2 | | | 91 |
| ENGINEERING | YES | N | 5 | 4 | 4 | 1 | 2 | 5 | 2 | | 3 | | 3 | | 1 | 2 | | 1 | | 33 |
| | | % | 23.8 | 16.7 | 50.0 | 10.0 | 28.6 | 35.7 | 20.0 | | 37.5 | | 25.0 | | 11.1 | 11.8 | | 33.3 | | 19.4 |
| | NO | N | 16 | 20 | 4 | 9 | 5 | 9 | 8 | 8 | 5 | 3 | 9 | 11 | 8 | 15 | 5 | 2 | | 137 |
| | | % | 76.2 | 83.3 | 50.0 | 90.0 | 71.4 | 64.3 | 80.0 | 100.0 | 62.5 | 100.0 | 75.0 | 100.0 | 88.9 | 88.2 | 100.0 | 66.7 | | 80.6 |
| | TOTAL | N | 21 | 24 | 8 | 10 | 7 | 14 | 10 | 8 | 8 | 3 | 12 | 11 | 9 | 17 | 5 | 3 | | 170 |
| EMP TOTAL | YES | N | 53 | 33 | 14 | 18 | 8 | 17 | 17 | 9 | 7 | 4 | 35 | 7 | 5 | 14 | 3 | 2 | | 246 |
| | | % | 29.0 | 32.4 | 26.9 | 36.0 | 26.7 | 32.1 | 48.6 | 29.0 | 29.2 | 26.7 | 50.0 | 20.6 | 17.9 | 25.9 | 8.8 | 18.2 | | 30.5 |
| | NO | N | 130 | 69 | 38 | 32 | 22 | 36 | 18 | 22 | 17 | 11 | 35 | 27 | 23 | 40 | 31 | 9 | | 500 |
| | | % | 71.0 | 67.6 | 73.1 | 64.0 | 73.3 | 67.9 | 51.4 | 71.0 | 70.8 | 73.3 | 50.0 | 79.4 | 82.1 | 74.1 | 91.2 | 81.8 | | 69.5 |
| | TOTAL | N | 183 | 102 | 52 | 50 | 30 | 53 | 35 | 31 | 24 | 15 | 70 | 34 | 28 | 54 | 34 | 11 | | 806 |
| BIOSCIENCES | YES | N | 39 | 16 | 19 | 15 | 3 | 6 | 6 | 2 | 2 | 3 | 2 | 2 | 3 | 7 | 1 | | | 126 |
| | | % | 45.3 | 36.4 | 65.5 | 68.2 | 100.0 | 54.5 | 50.0 | 40.0 | 33.3 | 50.0 | 16.7 | 40.0 | 33.3 | 28.0 | 5.6 | | | 41.4 |
| | NO | N | 47 | 28 | 10 | 7 | | 5 | 6 | 3 | 4 | 3 | 10 | 3 | 6 | 18 | 17 | 11 | | 178 |
| | | % | 54.7 | 63.6 | 34.5 | 31.8 | | 45.5 | 50.0 | 60.0 | 66.7 | 50.0 | 83.3 | 60.0 | 66.7 | 72.0 | 94.4 | 100.0 | | 58.6 |
| | TOTAL | N | 86 | 44 | 29 | 22 | 3 | 11 | 12 | 5 | 6 | 6 | 12 | 5 | 9 | 25 | 18 | 11 | | 304 |
| PSYCHOLOGY | YES | N | 2 | 9 | 1 | 2 | 1 | 1 | | 4 | | | 3 | 1 | | 3 | 3 | | | 30 |
| | | % | 50.0 | 81.8 | 20.0 | 50.0 | 100.0 | 33.3 | | 66.7 | | | 42.9 | 33.3 | | 42.9 | 60.0 | | | 46.2 |
| | NO | N | 2 | 2 | 4 | 2 | | 2 | 3 | 2 | 2 | 2 | 4 | 2 | | 4 | 2 | 2 | | 35 |
| | | % | 50.0 | 18.2 | 80.0 | 50.0 | | 66.7 | 100.0 | 33.3 | 100.0 | 100.0 | 57.1 | 66.7 | | 57.1 | 40.0 | 100.0 | | 53.8 |
| | TOTAL | N | 4 | 11 | 5 | 4 | 1 | 3 | 3 | 6 | 2 | 2 | 7 | 3 | | 7 | 5 | 2 | | 65 |
| SOC SCI & OTH | YES | N | 1 | | 3 | 2 | 2 | 3 | 5 | 4 | 1 | 1 | 13 | 4 | 7 | 6 | 5 | 2 | | 59 |
| | | % | 33.3 | | 42.9 | 66.7 | 66.7 | 60.0 | 83.3 | 66.7 | 16.7 | 33.3 | 65.0 | 33.3 | 50.0 | 40.0 | 45.5 | 50.0 | | 49.6 |
| | NO | N | 2 | 1 | 4 | 1 | 1 | 2 | 1 | 2 | 5 | 2 | 7 | 8 | 7 | 9 | 6 | 2 | | 60 |
| | | % | 66.7 | 100.0 | 57.1 | 33.3 | 33.3 | 40.0 | 16.7 | 33.3 | 83.3 | 66.7 | 35.0 | 66.7 | 50.0 | 60.0 | 54.5 | 50.0 | | 50.4 |
| | TOTAL | N | 3 | 1 | 7 | 3 | 3 | 5 | 6 | 6 | 6 | 3 | 20 | 12 | 14 | 15 | 11 | 4 | | 119 |
| BIO/BEH TOTAL | YES | N | 42 | 25 | 23 | 19 | 6 | 10 | 11 | 10 | 3 | 4 | 18 | 7 | 10 | 16 | 9 | 2 | | 215 |
| | | % | 45.2 | 44.6 | 56.1 | 65.5 | 85.7 | 52.6 | 52.4 | 58.8 | 21.4 | 36.4 | 46.2 | 35.0 | 43.5 | 34.0 | 26.5 | 11.8 | | 44.1 |
| | NO | N | 51 | 31 | 18 | 10 | 1 | 9 | 10 | 7 | 11 | 7 | 21 | 13 | 13 | 31 | 25 | 15 | | 273 |
| | | % | 54.8 | 55.4 | 43.9 | 34.5 | 14.3 | 47.4 | 47.6 | 41.2 | 78.6 | 63.6 | 53.8 | 65.0 | 56.5 | 66.0 | 73.5 | 88.2 | | 55.9 |
| | TOTAL | N | 93 | 56 | 41 | 29 | 7 | 19 | 21 | 17 | 14 | 11 | 39 | 20 | 23 | 47 | 34 | 17 | | 488 |
| GRAND TOTAL | YES | N | 95 | 58 | 37 | 37 | 14 | 27 | 28 | 19 | 10 | 8 | 53 | 14 | 15 | 30 | 12 | 4 | | 321 |
| | | % | 34.4 | 36.7 | 39.8 | 46.8 | 37.8 | 37.5 | 50.0 | 39.6 | 26.3 | 30.8 | 48.6 | 25.9 | 29.4 | 29.7 | 17.6 | 14.3 | | 25.6 |
| | NO | N | 181 | 100 | 56 | 42 | 23 | 45 | 28 | 29 | 28 | 18 | 56 | 40 | 36 | 71 | 56 | 24 | | 833 |
| | | % | 65.6 | 63.3 | 60.2 | 53.2 | 62.2 | 62.5 | 50.0 | 60.4 | 73.7 | 69.2 | 51.4 | 74.1 | 70.6 | 70.3 | 82.4 | 85.7 | | 64.4 |
| | TOTAL | N | 276 | 158 | 93 | 79 | 37 | 72 | 56 | 48 | 38 | 26 | 109 | 54 | 51 | 101 | 68 | 28 | | 1294 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Dissertation Adviser Status, by Cohort and Level of NSF Graduate Fellowship Award: First Year Level*

COHORT OF FIRST AWARD

| FLD OF APPLIC | ADV? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | YES | N | 14 | 12 | 25 | 20 | 17 | 16 | 17 | 18 | 9 | 6 | 6 | 2 | 1 | | | | | 163 |
| | | % | 41.2 | 31.6 | 39.1 | 24.1 | 32.1 | 16.5 | 14.8 | 14.8 | 7.9 | 6.9 | 3.7 | 1.6 | .9 | | | | | 10.0 |
| | NO | N | 20 | 26 | 39 | 63 | 36 | 81 | 93 | 104 | 105 | 81 | 157 | 124 | 109 | 137 | 141 | 77 | 62 | 1460 |
| | | % | 58.8 | 68.4 | 60.9 | 75.9 | 67.9 | 83.5 | 85.2 | 85.2 | 92.1 | 93.1 | 96.3 | 98.4 | 99.1 | 100.0 | 100.0 | 100.0 | 100.0 | 90.0 |
| | TOTAL | N | 34 | 38 | 64 | 83 | 53 | 97 | 115 | 122 | 114 | 87 | 163 | 126 | 110 | 137 | 141 | 77 | 62 | 1623 |
| PHYSICS | YES | N | 33 | 48 | 35 | 41 | 12 | 15 | 15 | 11 | 4 | | 3 | | | | | | | 217 |
| | | % | 42.3 | 43.6 | 32.7 | 26.6 | 14.1 | 14.7 | 11.9 | 11.7 | 4.5 | | 2.9 | | | | | | | 14.4 |
| | NO | N | 45 | 62 | 72 | 113 | 73 | 87 | 111 | 83 | 85 | 60 | 102 | 76 | 76 | 89 | 80 | 41 | 34 | 1289 |
| | | % | 57.7 | 56.4 | 67.3 | 73.4 | 85.9 | 85.3 | 88.1 | 88.3 | 95.5 | 100.0 | 97.1 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 85.6 |
| | TOTAL | N | 78 | 110 | 107 | 154 | 85 | 102 | 126 | 94 | 89 | 60 | 105 | 76 | 76 | 89 | 80 | 41 | 34 | 1506 |
| CHEMISTRY | YES | N | 26 | 42 | 32 | 31 | 20 | 14 | 15 | 12 | 4 | 2 | 4 | | | | | | | 202 |
| | | % | 29.5 | 37.8 | 32.7 | 28.2 | 34.5 | 22.2 | 18.8 | 18.8 | 6.8 | 2.9 | 5.2 | | | | | | | 16.5 |
| | NO | N | 62 | 69 | 66 | 79 | 38 | 49 | 65 | 52 | 55 | 66 | 73 | 58 | 67 | 74 | 77 | 33 | 36 | 1019 |
| | | % | 70.5 | 62.2 | 67.3 | 71.8 | 65.5 | 77.8 | 81.3 | 81.3 | 93.2 | 97.1 | 94.8 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 83.5 |
| | TOTAL | N | 88 | 111 | 98 | 110 | 58 | 63 | 80 | 64 | 59 | 68 | 77 | 58 | 67 | 74 | 77 | 33 | 36 | 1221 |
| GEOSCIENCES | YES | N | 4 | 1 | 4 | 6 | | 1 | 1 | 2 | 1 | | | | | | | | | 20 |
| | | % | 23.5 | 7.1 | 19.0 | 19.4 | | 5.9 | 6.7 | 22.2 | 6.7 | | | | | | | | | 7.1 |
| | NO | N | 13 | 13 | 17 | 25 | 14 | 16 | 14 | 7 | 14 | 12 | 20 | 9 | 8 | 17 | 30 | 13 | 20 | 262 |
| | | % | 76.5 | 92.9 | 81.0 | 80.6 | 100.0 | 94.1 | 93.3 | 77.8 | 93.3 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 92.9 |
| | TOTAL | N | 17 | 14 | 21 | 31 | 14 | 17 | 15 | 9 | 15 | 12 | 20 | 9 | 8 | 17 | 30 | 13 | 20 | 282 |
| ENGINEERING | YES | N | 5 | 14 | 22 | 29 | 10 | 7 | 5 | 6 | 3 | 5 | 2 | 1 | 1 | | | 1 | | 111 |
| | | % | 9.4 | 16.5 | 25.0 | 24.6 | 16.1 | 8.6 | 6.0 | 8.6 | 3.5 | 6.3 | 1.8 | 1.1 | 1.4 | | | 1.5 | | 8.2 |
| | NO | N | 48 | 71 | 66 | 89 | 52 | 74 | 78 | 64 | 83 | 74 | 111 | 90 | 73 | 57 | 66 | 64 | 86 | 1246 |
| | | % | 90.6 | 83.5 | 75.0 | 75.4 | 83.9 | 91.4 | 94.0 | 91.4 | 96.5 | 93.7 | 98.2 | 98.9 | 98.6 | 100.0 | 100.0 | 98.5 | 100.0 | 91.8 |
| | TOTAL | N | 53 | 85 | 88 | 118 | 62 | 81 | 83 | 70 | 86 | 79 | 113 | 91 | 74 | 57 | 66 | 65 | 86 | 1357 |
| EMP TOTAL | YES | N | 82 | 117 | 118 | 127 | 59 | 53 | 53 | 49 | 21 | 13 | 15 | 3 | 2 | | | 1 | | 713 |
| | | % | 30.4 | 32.7 | 31.2 | 25.6 | 21.7 | 14.7 | 12.6 | 13.6 | 5.8 | 4.2 | 3.1 | .9 | .6 | | | .4 | | 11.9 |
| | NO | N | 188 | 241 | 260 | 369 | 213 | 307 | 366 | 310 | 342 | 293 | 463 | 357 | 333 | 374 | 394 | 228 | 238 | 5276 |
| | | % | 69.6 | 67.3 | 68.8 | 74.4 | 78.3 | 85.3 | 87.4 | 86.4 | 94.2 | 95.8 | 96.9 | 99.2 | 99.4 | 100.0 | 100.0 | 99.6 | 100.0 | 88.1 |
| | TOTAL | N | 270 | 358 | 378 | 496 | 272 | 360 | 419 | 359 | 363 | 306 | 478 | 360 | 335 | 374 | 394 | 229 | 238 | 5989 |
| BIOSCIENCES | YES | N | 16 | 15 | 33 | 31 | 10 | 17 | 6 | 4 | 1 | 1 | 1 | | | | | | | 135 |
| | | % | 27.6 | 22.7 | 41.3 | 31.3 | 23.3 | 20.5 | 7.2 | 6.6 | 1.3 | 1.2 | 1.0 | | | | | | | 9.7 |
| | NO | N | 42 | 51 | 47 | 68 | 33 | 66 | 77 | 57 | 78 | 82 | 100 | 67 | 94 | 96 | 104 | 76 | 115 | 1253 |
| | | % | 72.4 | 77.3 | 58.8 | 68.7 | 76.7 | 79.5 | 92.8 | 93.4 | 98.7 | 98.8 | 99.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 90.3 |
| | TOTAL | N | 58 | 66 | 80 | 99 | 43 | 83 | 83 | 61 | 79 | 83 | 101 | 67 | 94 | 96 | 104 | 76 | 115 | 1388 |
| PSYCHOLOGY | YES | N | | 2 | 2 | 2 | 3 | 3 | 2 | 5 | 6 | | 2 | 1 | | | | | | 28 |
| | | % | | 22.2 | 16.7 | 14.3 | 42.9 | 25.0 | 8.7 | 22.7 | 20.7 | | 5.4 | 2.9 | | | | | | 7.3 |
| | NO | N | 2 | 7 | 10 | 12 | 4 | 9 | 21 | 17 | 23 | 21 | 35 | 33 | 26 | 22 | 38 | 34 | 42 | 356 |
| | | % | 100.0 | 77.8 | 83.3 | 85.7 | 57.1 | 75.0 | 91.3 | 77.3 | 79.3 | 100.0 | 94.6 | 97.1 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 92.7 |
| | TOTAL | N | 2 | 9 | 12 | 14 | 7 | 12 | 23 | 22 | 29 | 21 | 37 | 34 | 26 | 22 | 38 | 34 | 42 | 384 |
| SOC SCI & OTH | YES | N | | | 1 | 1 | 1 | 1 | 2 | 4 | 6 | 1 | 2 | 1 | | 1 | | | | 21 |
| | | % | | | 16.7 | 10.0 | 16.7 | 8.3 | 7.7 | 21.1 | 16.2 | 2.1 | 2.6 | 2.1 | | 1.6 | | | | 2.9 |
| | NO | N | 1 | 2 | 5 | 9 | 5 | 11 | 24 | 15 | 31 | 47 | 74 | 47 | 46 | 63 | 122 | 100 | 110 | 712 |
| | | % | 100.0 | 100.0 | 83.3 | 90.0 | 83.3 | 91.7 | 92.3 | 78.9 | 83.8 | 97.9 | 97.4 | 97.9 | 100.0 | 98.4 | 100.0 | 100.0 | 100.0 | 97.1 |
| | TOTAL | N | 1 | 2 | 6 | 10 | 6 | 12 | 26 | 19 | 37 | 48 | 76 | 48 | 46 | 64 | 122 | 100 | 110 | 733 |
| BIO/BEH TOTAL | YES | N | 16 | 17 | 36 | 34 | 14 | 21 | 10 | 13 | 13 | 2 | 5 | 2 | | 1 | | | | 184 |
| | | % | 26.2 | 22.1 | 36.7 | 27.6 | 25.0 | 19.6 | 7.6 | 12.7 | 9.0 | 1.3 | 2.3 | 1.3 | | .5 | | | | 7.3 |
| | NO | N | 45 | 60 | 62 | 89 | 42 | 86 | 122 | 89 | 132 | 150 | 209 | 147 | 166 | 181 | 264 | 210 | 267 | 2321 |
| | | % | 73.8 | 77.9 | 63.3 | 72.4 | 75.0 | 80.4 | 92.4 | 87.3 | 91.0 | 98.7 | 97.7 | 98.7 | 100.0 | 99.5 | 100.0 | 100.0 | 100.0 | 92.7 |
| | TOTAL | N | 61 | 77 | 98 | 123 | 56 | 107 | 132 | 102 | 145 | 152 | 214 | 149 | 166 | 182 | 264 | 210 | 267 | 2505 |
| GRAND TOTAL | YES | N | 98 | 134 | 154 | 161 | 73 | 74 | 63 | 62 | 34 | 15 | 20 | 5 | 2 | 1 | | 1 | | 897 |
| | | % | 29.6 | 30.8 | 32.4 | 26.0 | 22.3 | 15.8 | 11.4 | 13.4 | 6.7 | 3.3 | 2.9 | 1.0 | .4 | .2 | | .2 | | 10.6 |
| | NO | N | 233 | 301 | 322 | 458 | 255 | 393 | 488 | 399 | 474 | 443 | 672 | 504 | 479 | 555 | 658 | 438 | 505 | 7597 |
| | | % | 70.4 | 69.2 | 67.6 | 74.0 | 77.7 | 84.2 | 88.6 | 86.6 | 93.3 | 96.7 | 97.1 | 99.0 | 99.6 | 99.8 | 100.0 | 99.8 | 100.0 | 89.4 |
| | TOTAL | N | 331 | 435 | 476 | 619 | 328 | 467 | 551 | 461 | 508 | 458 | 692 | 509 | 701 | 556 | 658 | 439 | 505 | 8494 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

Dissertation Adviser Status, by Cohort and Level of NSF Graduate Fellowship Award: Intermediate Level*

| | | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLD OF APPLIC | ADV? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
| MATHEMATICS | YES | N | 17 | 11 | 10 | 11 | 8 | 8 | 9 | 6 | 3 | 2 | | | 1 | | | 1 | | 87 |
| | | % | 60.7 | 57.9 | 62.5 | 34.7 | 36.4 | 38.1 | 24.3 | 28.6 | 13.6 | 16.7 | | | 3.4 | | | 11.1 | | 41.4 |
| | NO | N | 11 | 8 | 6 | 19 | 14 | 13 | 28 | 15 | 19 | 10 | 60 | 27 | 28 | 29 | 24 | 8 | | 319 |
| | | % | 39.3 | 42.1 | 37.5 | 65.3 | 63.6 | 61.9 | 75.7 | 71.4 | 86.4 | 83.3 | 100.0 | 100.0 | 96.6 | 100.0 | 100.0 | 88.9 | | 78.6 |
| | TOTAL | N | 28 | 19 | 16 | 30 | 22 | 21 | 37 | 21 | 22 | 12 | 60 | 27 | 29 | 29 | 24 | 9 | | 406 |
| PHYSICS | YES | N | 27 | 26 | 20 | 16 | 7 | 10 | 10 | 3 | | | 1 | | | | | | | 120 |
| | | % | 50.0 | 53.1 | 47.6 | 42.1 | 29.2 | 33.3 | 34.5 | 8.8 | | | 1.8 | | | | | | | 25.8 |
| | NO | N | 27 | 23 | 22 | 22 | 17 | 20 | 19 | 31 | 20 | 16 | 54 | 14 | 11 | 21 | 24 | 5 | | 346 |
| | | % | 50.0 | 46.9 | 52.4 | 57.9 | 70.8 | 66.7 | 65.5 | 91.2 | 100.0 | 100.0 | 98.2 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 74.2 |
| | TOTAL | N | 54 | 49 | 42 | 38 | 24 | 30 | 29 | 34 | 20 | 16 | 55 | 14 | 11 | 21 | 24 | 5 | | 466 |
| CHEMISTRY | YES | N | 13 | 14 | 15 | 15 | 11 | 17 | 9 | 6 | 6 | 5 | | | | | | | | 111 |
| | | % | 21.0 | 23.7 | 32.6 | 27.3 | 50.0 | 33.3 | 30.0 | 26.1 | 20.7 | 26.3 | | | | | | | | 19.7 |
| | NO | N | 49 | 45 | 31 | 40 | 11 | 34 | 21 | 17 | 23 | 14 | 62 | 21 | 29 | 20 | 22 | 13 | | 452 |
| | | % | 79.0 | 76.3 | 67.4 | 72.7 | 50.0 | 66.7 | 70.0 | 73.9 | 79.3 | 73.7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 80.3 |
| | TOTAL | N | 62 | 59 | 46 | 55 | 22 | 51 | 30 | 23 | 29 | 19 | 62 | 21 | 29 | 20 | 22 | 13 | | 563 |
| GEOSCIENCES | YES | N | 6 | 8 | 7 | 8 | 6 | 5 | 2 | 1 | 1 | | 1 | 1 | | | | | | 46 |
| | | % | 35.3 | 42.1 | 38.9 | 26.7 | 42.9 | 26.3 | 11.1 | 6.3 | 9.1 | | 5.6 | 7.7 | | | | | | 18.8 |
| | NO | N | 11 | 11 | 11 | 22 | 8 | 14 | 16 | 15 | 10 | 10 | 17 | 12 | 12 | 15 | 11 | 4 | | 199 |
| | | % | 64.7 | 57.9 | 61.1 | 73.3 | 57.1 | 73.7 | 88.9 | 93.8 | 90.9 | 100.0 | 94.4 | 92.3 | 100.0 | 100.0 | 100.0 | 100.0 | | 81.2 |
| | TOTAL | N | 17 | 19 | 18 | 30 | 14 | 19 | 18 | 16 | 11 | 10 | 18 | 13 | 12 | 15 | 11 | 4 | | 245 |
| ENGINEERING | YES | N | 8 | 12 | 7 | 17 | 6 | 9 | 5 | 6 | 3 | 2 | 2 | 1 | | | | | | 78 |
| | | % | 29.6 | 57.1 | 31.8 | 47.2 | 22.2 | 20.0 | 13.9 | 18.2 | 12.0 | 8.7 | 4.3 | 7.1 | | | | | | 18.5 |
| | NO | N | 19 | 9 | 15 | 19 | 21 | 36 | 31 | 27 | 22 | 21 | 45 | 13 | 12 | 15 | 25 | 9 | | 343 |
| | | % | 70.4 | 42.9 | 68.2 | 52.8 | 77.8 | 80.0 | 86.1 | 81.8 | 88.0 | 91.3 | 95.7 | 92.9 | 100.0 | 100.0 | 100.0 | 100.0 | | 81.5 |
| | TOTAL | N | 27 | 21 | 22 | 36 | 27 | 45 | 36 | 33 | 25 | 23 | 47 | 14 | 12 | 19 | 25 | 9 | | 421 |
| EMP TOTAL | YES | N | 71 | 71 | 59 | 67 | 38 | 49 | 35 | 22 | 13 | 9 | 4 | 2 | 1 | | | 1 | | 442 |
| | | % | 37.8 | 42.5 | 41.0 | 35.4 | 34.9 | 29.5 | 23.3 | 17.3 | 12.1 | 11.3 | 1.7 | 2.2 | 1.1 | | | 2.4 | | 21.3 |
| | NO | N | 117 | 96 | 85 | 122 | 71 | 117 | 115 | 105 | 94 | 71 | 238 | 87 | 92 | 104 | 106 | 39 | | 1659 |
| | | % | 62.2 | 57.5 | 59.0 | 64.6 | 65.1 | 70.5 | 76.7 | 82.7 | 87.9 | 88.8 | 98.3 | 97.8 | 98.9 | 100.0 | 100.0 | 97.5 | | 79.0 |
| | TOTAL | N | 188 | 167 | 144 | 189 | 109 | 166 | 150 | 127 | 107 | 80 | 242 | 89 | 93 | 104 | 106 | 40 | | 2101 |
| BIOSCIENCES | YES | N | 34 | 43 | 23 | 24 | 10 | 10 | 6 | 2 | 4 | 2 | 9 | 1 | | | | | | 168 |
| | | % | 47.2 | 47.3 | 35.9 | 40.0 | 30.3 | 19.6 | 13.3 | 4.5 | 11.8 | 9.5 | 11.5 | 3.7 | | | | | | 20.9 |
| | NO | N | 38 | 48 | 41 | 36 | 23 | 41 | 39 | 42 | 30 | 19 | 69 | 26 | 49 | 44 | 63 | 26 | 1 | 635 |
| | | % | 52.8 | 52.7 | 64.1 | 60.0 | 69.7 | 80.4 | 86.7 | 95.5 | 88.2 | 90.5 | 88.5 | 96.3 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 79.1 |
| | TOTAL | N | 72 | 91 | 64 | 60 | 33 | 51 | 45 | 44 | 34 | 21 | 78 | 27 | 49 | 44 | 63 | 26 | 1 | 803 |
| PSYCHOLOGY | YES | N | | 5 | 2 | 6 | | 7 | 4 | 5 | | 2 | 1 | | | | | | | 32 |
| | | % | | 31.3 | 20.0 | 60.0 | | 58.3 | 40.0 | 62.5 | | 28.6 | 12.5 | | | | | | | 21.5 |
| | NO | N | 4 | 11 | 8 | 4 | 5 | 5 | 6 | 3 | 8 | 5 | 7 | 5 | 4 | 6 | 23 | 13 | | 117 |
| | | % | 100.0 | 68.8 | 80.0 | 40.0 | 100.0 | 41.7 | 60.0 | 37.5 | 100.0 | 71.4 | 87.5 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 78.5 |
| | TOTAL | N | 4 | 16 | 10 | 10 | 5 | 12 | 10 | 8 | 8 | 7 | 8 | 5 | 4 | 6 | 23 | 13 | | 149 |
| SOC SCI & OTH | YES | N | | 1 | 7 | 12 | 1 | 7 | 4 | 7 | 4 | 7 | 2 | 2 | 2 | | | | | 56 |
| | | % | | 33.3 | 43.8 | 54.5 | 12.5 | 38.9 | 17.4 | 29.2 | 14.8 | 25.9 | 4.5 | 6.7 | 7.1 | | | | | 14.1 |
| | NO | N | | 2 | 9 | 10 | 7 | 11 | 19 | 17 | 23 | 20 | 42 | 28 | 26 | 32 | 70 | 26 | | 342 |
| | | % | | 66.7 | 56.3 | 45.5 | 87.5 | 61.1 | 82.6 | 70.8 | 85.2 | 74.1 | 95.5 | 93.3 | 92.9 | 100.0 | 100.0 | 100.0 | | 85.9 |
| | TOTAL | N | | 3 | 16 | 22 | 8 | 18 | 23 | 24 | 27 | 27 | 44 | 30 | 28 | 32 | 70 | 26 | | 398 |
| BIO/BEH TOTAL | YES | N | 34 | 49 | 32 | 42 | [illegible] | 24 | 14 | 14 | 8 | 11 | 12 | 3 | 2 | | | | | 256 |
| | | % | 44.7 | 44.5 | 35.6 | 45.7 | 23.[illegible] | 29.6 | 17.9 | 18.4 | 11.6 | 20.0 | 9.2 | 4.8 | 2.5 | | | | | 19.0 |
| | NO | N | 42 | 61 | 58 | 50 | 35 | 57 | 64 | 62 | 61 | 44 | 118 | 59 | 79 | 82 | 156 | 65 | 1 | 1094 |
| | | % | 55.3 | 55.5 | 64.4 | 54.3 | 76.1 | 70.4 | 82.1 | 81.6 | 88.4 | 80.0 | 90.8 | 95.2 | 97.5 | 100.0 | 100.0 | 100.0 | 100.0 | 81.0 |
| | TOTAL | N | 76 | 110 | 90 | 92 | 46 | 81 | 78 | 76 | 69 | 55 | 130 | 62 | 81 | 82 | 156 | 65 | 1 | 1350 |
| GRAND TOTAL | YES | N | 105 | 120 | 91 | 109 | 49 | 73 | 49 | 36 | 21 | 20 | 16 | 5 | 3 | | | 1 | | 698 |
| | | % | 39.8 | 43.3 | 38.9 | 38.9 | 31.6 | 29.6 | 21.5 | 17.7 | 11.9 | 14.8 | 4.3 | 3.3 | 1.7 | | | 1.0 | | 20.2 |
| | NO | N | 159 | 157 | 143 | 172 | 106 | 174 | 179 | 167 | 155 | 115 | 356 | 146 | 171 | 186 | 262 | 104 | 1 | 2753 |
| | | % | 60.2 | 56.7 | 61.1 | 61.2 | 68.4 | 70.4 | 78.5 | 82.3 | 88.1 | 85.2 | 95.7 | 96.7 | 98.3 | 100.0 | 100.0 | 99.0 | 100.0 | 79.8 |
| | TOTAL | N | 264 | 277 | 234 | 281 | 155 | 247 | 228 | 203 | 176 | 135 | 372 | 151 | 174 | 186 | 262 | 105 | 1 | 3451 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1972.

SOURCE: NRC, Commission on Human Resources

## Dissertation Adviser Status, by Cohort and Level of NSF Graduate Fellowship Award: Terminal Level*

| FLD OF APPLIC | ADV? | | COHORT OF FIRST AWARD 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | YES | N | 6 | 5 | 2 | 2 | 2 | 3 | 1 | 4 | | | 3 | | 1 | | | | | 29 |
| | | % | 30.0 | 71.4 | 66.7 | 40.0 | 50.0 | 50.0 | 20.0 | 80.0 | | | 9.7 | | 9.1 | | | | | 21.0 |
| | NO | N | 14 | 2 | 1 | 3 | 2 | 3 | 4 | 1 | 2 | 2 | 28 | 8 | 10 | 13 | 8 | 8 | | 109 |
| | | % | 70.0 | 28.6 | 33.3 | 60.0 | 50.0 | 50.0 | 80.0 | 20.0 | 100.0 | 100.0 | 90.3 | 100.0 | 90.9 | 100.0 | 100.0 | 100.0 | | 79.0 |
| | TOTAL | N | 20 | 7 | 3 | 5 | 4 | 6 | 5 | 5 | 2 | 2 | 31 | 8 | 11 | 13 | 8 | 8 | | 138 |
| PHYSICS | YES | N | 34 | 13 | 1 | 3 | 5 | 3 | 2 | | 1 | | 1 | | | | | | | 63 |
| | | % | 49.3 | 48.1 | 12.5 | 27.3 | 50.0 | 37.5 | 28.6 | | 20.0 | | 9.1 | | | | | | | 32.8 |
| | NO | N | 35 | 14 | 7 | 8 | 5 | 5 | 5 | 5 | 4 | 1 | 10 | 8 | 3 | 11 | 8 | | | 129 |
| | | % | 50.7 | 51.9 | 87.5 | 72.7 | 50.0 | 62.5 | 71.4 | 100.0 | 80.0 | 100.0 | 90.9 | 100.0 | 100.0 | 100.0 | 100.0 | | | 67.2 |
| | TOTAL | N | 69 | 27 | 8 | 11 | 10 | 8 | 7 | 5 | 5 | 1 | 11 | 8 | 3 | 11 | 8 | | | 192 |
| CHEMISTRY | YES | N | 17 | 12 | 4 | 8 | 2 | 4 | 3 | 4 | 5 | 2 | 2 | | | | | | | 63 |
| | | % | 30.9 | 35.3 | 16.7 | 44.4 | 28.6 | 22.2 | 42.9 | 57.1 | 71.4 | 66.7 | 16.7 | | | | | | | 29.3 |
| | NO | N | 38 | 22 | 20 | 10 | 5 | 14 | 4 | 3 | 2 | 1 | 10 | 4 | 3 | 5 | 11 | | | 152 |
| | | % | 69.1 | 64.7 | 83.3 | 55.6 | 71.4 | 77.8 | 57.1 | 42.9 | 28.6 | 33.3 | 83.3 | 100.0 | 100.0 | 100.0 | 100.0 | | | 70.7 |
| | TOTAL | N | 55 | 34 | 24 | 18 | 7 | 18 | 7 | 7 | 7 | 3 | 12 | 4 | 3 | 5 | 11 | | | 215 |
| GEOSCIENCES | YES | N | 7 | 4 | 3 | 2 | | 2 | 1 | | 1 | 1 | | | | | | | | 21 |
| | | % | 38.9 | 40.0 | 33.3 | 33.3 | | 28.6 | 16.7 | | 50.0 | 16.7 | | | | | | | | 23.1 |
| | NO | N | 11 | 6 | 6 | 4 | 2 | 5 | 5 | 6 | 1 | 5 | 4 | 3 | 2 | 8 | 2 | | | 70 |
| | | % | 61.1 | 60.0 | 66.7 | 66.7 | 100.0 | 71.4 | 83.3 | 100.0 | 50.0 | 83.3 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | 76.9 |
| | TOTAL | N | 18 | 10 | 9 | 6 | 2 | 7 | 6 | 6 | 2 | 6 | 4 | 3 | 2 | 8 | 2 | | | 91 |
| ENGINEERING | YES | N | 7 | 3 | 2 | 2 | 2 | 7 | 2 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | | | | 35 |
| | | % | 33.3 | 12.5 | 25.0 | 20.0 | 28.6 | 50.0 | 20.0 | 37.5 | 12.5 | | 16.7 | 18.2 | 11.1 | 5.9 | | | | 20.6 |
| | NO | N | 14 | 21 | 6 | 8 | 5 | 7 | 8 | 5 | 7 | 3 | 10 | 9 | 8 | 16 | 5 | 3 | | 135 |
| | | % | 66.7 | 87.5 | 75.0 | 80.0 | 71.4 | 50.0 | 80.0 | 62.5 | 87.5 | 100.0 | 83.3 | 81.8 | 88.9 | 94.1 | 100.0 | 100.0 | | 79.4 |
| | TOTAL | N | 21 | 24 | 8 | 10 | 7 | 14 | 10 | 8 | 8 | 3 | 12 | 11 | 9 | 17 | 5 | 3 | | 170 |
| EMP TOTAL | YES | N | 71 | 37 | 12 | 17 | 11 | 19 | 9 | 11 | 8 | 3 | 8 | 2 | 2 | 1 | | | | 211 |
| | | % | 38.8 | 36.3 | 23.1 | 34.0 | 36.7 | 35.8 | 25.7 | 35.5 | 33.3 | 20.0 | 11.4 | 5.9 | 7.1 | 1.9 | | | | 26.2 |
| | NO | N | 112 | 65 | 40 | 33 | 19 | 34 | 26 | 20 | 16 | 12 | 62 | 32 | 26 | 53 | 34 | 11 | | 595 |
| | | % | 61.2 | 63.7 | 76.9 | 66.0 | 63.3 | 64.2 | 74.3 | 64.5 | 66.7 | 80.0 | 88.6 | 94.1 | 92.9 | 98.1 | 100.0 | 100.0 | | 73.8 |
| | TOTAL | N | 183 | 102 | 52 | 50 | 30 | 53 | 35 | 31 | 24 | 15 | 70 | 34 | 28 | 54 | 34 | 11 | | 806 |
| BIOSCIENCES | YES | N | 36 | 18 | 12 | 10 | 2 | 3 | 6 | 3 | 1 | | 1 | 1 | 2 | | | | | 95 |
| | | % | 41.9 | 40.9 | 41.4 | 45.5 | 66.7 | 27.3 | 50.0 | 60.0 | 16.7 | | 8.3 | 20.0 | 22.2 | | | | | 31.3 |
| | NO | N | 50 | 26 | 17 | 12 | 1 | 8 | 6 | 2 | 5 | 6 | 11 | 4 | 7 | 25 | 18 | 11 | | 209 |
| | | % | 58.1 | 59.1 | 58.6 | 54.5 | 33.3 | 72.7 | 50.0 | 40.0 | 83.3 | 100.0 | 91.7 | 80.0 | 77.8 | 100.0 | 100.0 | 100.0 | | 68.8 |
| | TOTAL | N | 86 | 44 | 29 | 22 | 3 | 11 | 12 | 5 | 6 | 6 | 12 | 5 | 9 | 25 | 18 | 11 | | 304 |
| PSYCHOLOGY | YES | N | 3 | 8 | 2 | 2 | | 1 | | 2 | 1 | 2 | 1 | 2 | | 1 | | | | 25 |
| | | % | 75.0 | 72.7 | 40.0 | 50.0 | | 33.3 | | 33.3 | 50.0 | 100.0 | 14.3 | 66.7 | | 14.3 | | | | 38.5 |
| | NO | N | 1 | 3 | 3 | 2 | 1 | 2 | 3 | 4 | 1 | | 6 | 1 | | 6 | 5 | 2 | | 40 |
| | | % | 25.0 | 27.3 | 60.0 | 50.0 | 100.0 | 66.7 | 100.0 | 66.7 | 50.0 | | 85.7 | 33.3 | | 85.7 | 100.0 | 100.0 | | 61.5 |
| | TOTAL | N | 4 | 11 | 5 | 4 | 1 | 3 | 3 | 6 | 2 | 2 | 7 | 3 | | 7 | 5 | 2 | | 65 |
| SOC SCI & OTH | YES | N | 1 | | 5 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 5 | | | | 1 | | | 22 |
| | | % | 33.3 | | 71.4 | 33.3 | 33.3 | 40.0 | 16.7 | 50.0 | 16.7 | 33.3 | 25.0 | | | | 9.1 | | | 18.5 |
| | NO | N | 2 | 1 | 2 | 2 | 2 | 3 | 5 | 3 | 5 | 2 | 15 | 12 | 14 | 15 | 10 | 4 | | 97 |
| | | % | 66.7 | 100.0 | 28.6 | 66.7 | 66.7 | 60.0 | 83.3 | 50.0 | 83.3 | 66.7 | 75.0 | 100.0 | 100.0 | 100.0 | 90.9 | 100.0 | | 81.5 |
| | TOTAL | N | 3 | 1 | 7 | 3 | 3 | 5 | 6 | 6 | 6 | 3 | 20 | 12 | 14 | 15 | 11 | 4 | | 119 |
| BIO/BEH TOTAL | YES | N | 40 | 26 | 19 | 13 | 3 | 6 | 7 | 8 | 3 | 3 | 7 | 3 | 2 | 1 | 1 | | | 142 |
| | | % | 43.0 | 46.4 | 46.3 | 44.8 | 42.9 | 31.6 | 33.3 | 47.1 | 21.4 | 27.3 | 17.9 | 15.0 | 8.7 | 2.1 | 2.9 | | | 29.1 |
| | NO | N | 53 | 30 | 22 | 16 | 4 | 13 | 14 | 9 | 11 | 8 | 32 | 17 | 21 | 46 | 33 | 17 | | 346 |
| | | % | 57.0 | 53.6 | 53.7 | 55.2 | 57.1 | 68.4 | 66.7 | 52.9 | 78.6 | 72.7 | 82.1 | 85.0 | 91.3 | 97.9 | 97.1 | 100.0 | | 70.9 |
| | TOTAL | N | 93 | 56 | 41 | 29 | 7 | 19 | 21 | 17 | 14 | 11 | 39 | 20 | 23 | 47 | 34 | 17 | | 488 |
| GRAND TOTAL | YES | N | 111 | 63 | 31 | 30 | 14 | 25 | 16 | 19 | 11 | 6 | 15 | 5 | 4 | 2 | 1 | | | 353 |
| | | % | 40.2 | 39.9 | 33.3 | 38.0 | 37.8 | 34.7 | 28.6 | 39.6 | 28.9 | 23.1 | 13.8 | 9.3 | 7.8 | 2.0 | 1.5 | | | 27.3 |
| | NO | N | 165 | 95 | 62 | 49 | 23 | 47 | 40 | 29 | 27 | 20 | 94 | 49 | 47 | 99 | 67 | 28 | | 941 |
| | | % | 59.8 | 60.1 | 66.7 | 62.0 | 62.2 | 65.3 | 71.4 | 60.4 | 71.1 | 76.9 | 86.2 | 90.7 | 92.2 | 98.0 | 98.5 | 100.0 | | 72.7 |
| | TOTAL | N | 276 | 158 | 93 | 79 | 37 | 72 | 56 | 48 | 38 | 26 | 109 | 54 | 51 | 101 | 68 | 28 | | 1294 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Award of NIH or NSF Research Grants, by Cohort and Level of NSF Graduate Fellowships: First Year Level*

COHORT OF FIRST AWARD

| FLD OF APPLIC | GRT? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MATHEMATICS | YES | N | 8 | 10 | 12 | 13 | 10 | 14 | 18 | 15 | 20 | 14 | 11 | 7 | 4 | 1 | 2 | | | 159 |
| | | % | 23.5 | 26.3 | 18.8 | 15.7 | 18.9 | 14.4 | 15.7 | 12.3 | 17.5 | 16.1 | 6.7 | 5.6 | 3.6 | .7 | 1.4 | | | 9.8 |
| | NO | N | 26 | 28 | 52 | 70 | 43 | 83 | 97 | 107 | 94 | 73 | 152 | 119 | 106 | 136 | 139 | 77 | 62 | 1464 |
| | | % | 76.5 | 73.7 | 81.3 | 84.3 | 81.1 | 85.6 | 84.3 | 87.7 | 82.5 | 83.9 | 93.3 | 94.4 | 96.4 | 99.3 | 98.6 | 100.0 | 100.0 | 90.2 |
| | TOTAL | N | 34 | 38 | 64 | 83 | 53 | 97 | 115 | 122 | 114 | 87 | 163 | 126 | 110 | 137 | 141 | 77 | 62 | 1623 |
| PHYSICS | YES | N | 19 | 16 | 18 | 23 | 5 | 11 | 12 | 8 | 3 | 3 | 4 | 1 | | 1 | | | | 124 |
| | | % | 24.4 | 14.5 | 16.8 | 14.9 | 5.9 | 10.8 | 9.5 | 8.5 | 3.4 | 5.0 | 3.8 | 1.3 | | 1.1 | | | | 8.2 |
| | NO | N | 59 | 94 | 89 | 131 | 80 | 91 | 114 | 86 | 86 | 57 | 101 | 75 | 76 | 88 | 80 | 41 | 34 | 1382 |
| | | % | 75.6 | 85.5 | 83.2 | 85.1 | 94.1 | 89.2 | 90.5 | 91.5 | 96.6 | 95.0 | 96.2 | 98.7 | 100.0 | 98.9 | 100.0 | 100.0 | 100.0 | 91.8 |
| | TOTAL | N | 78 | 110 | 107 | 154 | 85 | 102 | 126 | 94 | 89 | 60 | 105 | 76 | 76 | 89 | 80 | 41 | 34 | 1506 |
| CHEMISTRY | YES | N | 17 | 30 | 25 | 22 | 17 | 8 | 24 | 9 | 9 | 3 | 6 | 3 | | | | | | 173 |
| | | % | 19.3 | 27.0 | 25.5 | 20.0 | 29.3 | 12.7 | 30.0 | 14.1 | 15.3 | 4.4 | 7.8 | 5.2 | | | | | | 14.2 |
| | NO | N | 71 | 81 | 73 | 88 | 41 | 55 | 56 | 55 | 50 | 65 | 71 | 55 | 67 | 74 | 77 | 33 | 36 | 1048 |
| | | % | 80.7 | 73.0 | 74.5 | 80.0 | 70.7 | 87.3 | 70.0 | 85.9 | 84.7 | 95.6 | 92.2 | 94.8 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 85.8 |
| | TOTAL | N | 88 | 111 | 98 | 110 | 58 | 63 | 80 | 64 | 59 | 68 | 77 | 58 | 67 | 74 | 77 | 33 | 36 | 1221 |
| GEOSCIENCES | YES | N | 2 | | 5 | 8 | 1 | 5 | 3 | 3 | 2 | 1 | 3 | | | | | | | 33 |
| | | % | 11.8 | | 23.8 | 25.8 | 7.1 | 29.4 | 20.0 | 33.3 | 13.3 | 8.3 | 15.0 | | | | | | | 11.7 |
| | NO | N | 15 | 14 | 16 | 23 | 13 | 12 | 12 | 6 | 13 | 11 | 17 | 9 | 8 | 17 | 30 | 13 | 20 | 249 |
| | | % | 88.2 | 100.0 | 76.2 | 74.2 | 92.9 | 70.6 | 80.0 | 66.7 | 86.7 | 91.7 | 85.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 88.3 |
| | TOTAL | N | 17 | 14 | 21 | 31 | 14 | 17 | 15 | 9 | 15 | 12 | 20 | 9 | 8 | 17 | 30 | 13 | 20 | 282 |
| ENGINEERING | YES | N | 1 | 7 | 12 | 19 | 7 | 6 | 5 | 8 | 4 | 6 | 7 | 3 | 3 | | | | | 86 |
| | | % | 1.9 | 8.2 | 13.6 | 16.1 | 11.3 | 7.4 | 6.0 | 11.4 | 4.7 | 7.6 | 6.2 | 3.3 | 4.1 | | | | | 6.5 |
| | NO | N | 52 | 73 | 76 | 99 | 55 | 75 | 78 | 62 | 82 | 73 | 106 | 88 | 71 | 57 | 66 | 65 | 86 | 1269 |
| | | % | 98.1 | 91.8 | 86.4 | 83.9 | 88.7 | 92.6 | 94.0 | 88.6 | 95.3 | 92.4 | 93.8 | 96.7 | 95.9 | 100.0 | 100.0 | 100.0 | 100.0 | 93.5 |
| | TOTAL | N | 53 | 85 | 88 | 118 | 62 | 81 | 83 | 70 | 86 | 79 | 113 | 91 | 74 | 57 | 66 | 65 | 86 | 1357 |
| EMP TOTAL | YES | N | 47 | 63 | 72 | 85 | 40 | 44 | 62 | 43 | 38 | 27 | 31 | 14 | 7 | 2 | 2 | | | 577 |
| | | % | 17.4 | 17.6 | 19.0 | 17.1 | 14.7 | 12.2 | 14.9 | 12.0 | 10.5 | 8.8 | 6.5 | 3.9 | 2.1 | .5 | .5 | | | 9.8 |
| | NO | N | 223 | 295 | 306 | 411 | 232 | 316 | 357 | 316 | 325 | 279 | 447 | 346 | 328 | 372 | 392 | 229 | 238 | 5412 |
| | | % | 82.6 | 82.4 | 81.0 | 82.9 | 85.3 | 87.8 | 85.2 | 88.0 | 89.5 | 91.2 | 93.5 | 96.1 | 97.9 | 99.5 | 99.5 | 100.0 | 100.0 | 90.4 |
| | TOTAL | N | 270 | 358 | 378 | 496 | 272 | 360 | 419 | 359 | 363 | 306 | 478 | 360 | 335 | 374 | 394 | 229 | 238 | 5989 |
| BIOSCIENCES | YES | N | 21 | 19 | 25 | 34 | 13 | 22 | 25 | 15 | 13 | 14 | 5 | 3 | 1 | 2 | | | | 212 |
| | | % | 36.2 | 28.8 | 31.3 | 34.3 | 30.2 | 26.5 | 30.1 | 24.6 | 16.5 | 16.9 | 5.2 | 4.5 | 1.1 | 2.1 | | | | 15.3 |
| | NO | N | 37 | 47 | 55 | 65 | 30 | 61 | 58 | 46 | 66 | 69 | 96 | 64 | 93 | 94 | 106 | 76 | 115 | 1176 |
| | | % | 63.8 | 71.2 | 68.8 | 65.7 | 69.8 | 73.5 | 69.9 | 75.4 | 83.5 | 83.1 | 95.0 | 95.5 | 98.9 | 97.9 | 100.0 | 100.0 | 100.0 | 84.7 |
| | TOTAL | N | 58 | 66 | 80 | 99 | 43 | 83 | 83 | 61 | 79 | 83 | 101 | 67 | 94 | 96 | 106 | 76 | 115 | 1388 |
| PSYCHOLOGY | YES | N | 1 | 1 | 2 | 3 | 1 | 3 | 5 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | | | | 28 |
| | | % | 50.0 | 11.1 | 16.7 | 14.3 | 42.9 | 8.3 | 13.9 | 22.7 | 10.3 | 4.8 | 8.1 | 2.9 | 3.8 | 4.5 | | | | 7.3 |
| | NO | N | 1 | 8 | 10 | 12 | 4 | 11 | 20 | 17 | 26 | 20 | 34 | 33 | 25 | 21 | 38 | 34 | 42 | 356 |
| | | % | 50.0 | 88.9 | 83.3 | 85.7 | 57.1 | 91.7 | 87.0 | 77.3 | 89.7 | 95.2 | 91.9 | 97.1 | 96.2 | 95.5 | 100.0 | 100.0 | 100.0 | 92.7 |
| | TOTAL | N | 2 | 9 | 12 | 14 | 7 | 12 | 23 | 22 | 29 | 21 | 37 | 34 | 26 | 22 | 38 | 34 | 42 | 384 |
| SOC SCI & OTH | YES | N | | 1 | 1 | 1 | 1 | | 2 | 1 | 6 | | | 2 | | | | | | 15 |
| | | % | | 50.0 | 16.7 | 10.0 | 16.7 | | 7.7 | 5.3 | 16.2 | | | 4.2 | | | | | | 2.0 |
| | NO | N | 1 | 1 | 5 | 9 | 5 | 12 | 24 | 18 | 31 | 48 | 76 | 46 | 40 | 64 | 122 | 100 | 110 | 718 |
| | | % | 100.0 | 50.0 | 83.3 | 90.0 | 83.3 | 100.0 | 92.3 | 94.7 | 83.8 | 100.0 | 100.0 | 95.8 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 98.0 |
| | TOTAL | N | 1 | 2 | 6 | 10 | 6 | 12 | 26 | 19 | 37 | 48 | 76 | 48 | 40 | 64 | 122 | 100 | 110 | 733 |
| BIO/BEH TOTAL | YES | N | 22 | 21 | 28 | 37 | 17 | 23 | 30 | 21 | 22 | 15 | 8 | 6 | 2 | 3 | | | | 255 |
| | | % | 36.1 | 27.3 | 28.6 | 30.1 | 30.4 | 21.5 | 22.7 | 20.6 | 15.2 | 9.9 | 3.7 | 4.0 | 1.2 | 1.6 | | | | 10.2 |
| | NO | N | 39 | 56 | 70 | 86 | 39 | 84 | 102 | 81 | 123 | 137 | 206 | 143 | 164 | 179 | 264 | 210 | 267 | 2253 |
| | | % | 63.9 | 72.7 | 71.4 | 69.9 | 69.6 | 78.5 | 77.3 | 79.4 | 84.8 | 90.1 | 96.3 | 96.0 | 98.8 | 98.4 | 100.0 | 100.0 | 100.0 | 89.8 |
| | TOTAL | N | 61 | 77 | 98 | 123 | 56 | 107 | 132 | 102 | 145 | 152 | 214 | 149 | 166 | 182 | 264 | 210 | 267 | 2505 |
| GRAND TOTAL | YES | N | 69 | 84 | 100 | 122 | 57 | 67 | 92 | 64 | 60 | 45 | 39 | 20 | 9 | 5 | 2 | | | 832 |
| | | % | 20.8 | 19.3 | 21.0 | 19.7 | 17.4 | 14.3 | 16.7 | 13.9 | 11.8 | 9.2 | 5.6 | 3.9 | 1.8 | .9 | .3 | | | 9.8 |
| | NO | N | 262 | 351 | 376 | 497 | 271 | 400 | 459 | 397 | 448 | 416 | 653 | 489 | 492 | 551 | 656 | 439 | 505 | 7662 |
| | | % | 79.2 | 80.7 | 79.0 | 80.3 | 82.6 | 85.7 | 83.3 | 86.1 | 88.2 | 90.8 | 94.4 | 96.1 | 98.2 | 99.1 | 99.7 | 100.0 | 100.0 | 90.2 |
| | TOTAL | N | 331 | 435 | 476 | 619 | 328 | 467 | 551 | 461 | 508 | 458 | 692 | 509 | 501 | 556 | 658 | 439 | 505 | 8494 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

Award of NIH or NSF Research Grants, by Cohort and Level of NSF Graduate Fellowships:
Intermediate Level*

| | | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLD OF APPLIC | GRT? | | 1952 -53 | 1954 -55 | 1956 -57 | 1958 -59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | TOTAL |
| MATHEMATICS | YES | N | 10 | 7 | 3 | 5 | 3 | 3 | 6 | 3 | 1 | 2 | 8 | 5 | 1 | | 1 | | | 58 |
| | | % | 35.7 | 36.8 | 18.8 | 16.7 | 13.6 | 14.3 | 16.2 | 14.3 | 4.5 | 16.7 | 13.3 | 18.5 | 3.4 | | 4.2 | | | 14.3 |
| | NO | N | 18 | 12 | 13 | 25 | 19 | 18 | 31 | 18 | 21 | 10 | 52 | 22 | 28 | 29 | 23 | 9 | | 348 |
| | | % | 64.3 | 63.2 | 81.3 | 83.3 | 86.4 | 85.7 | 83.8 | 85.7 | 95.5 | 83.3 | 86.7 | 81.5 | 96.6 | 100.0 | 95.8 | 100.0 | | 85.7 |
| | TOTAL | N | 28 | 19 | 16 | 30 | 22 | 21 | 37 | 21 | 22 | 12 | 60 | 27 | 29 | 29 | 24 | 9 | | 406 |
| PHYSICS | YES | N | 13 | 8 | 9 | 8 | 1 | 1 | 3 | 4 | | | 2 | 1 | | 1 | 1 | | | 52 |
| | | % | 24.1 | 16.3 | 21.4 | 21.1 | 4.2 | 3.3 | 10.3 | 11.8 | | | 3.6 | 7.1 | | 4.8 | 4.2 | | | 11.2 |
| | NO | N | 41 | 41 | 33 | 30 | 23 | 29 | 26 | 30 | 20 | 16 | 53 | 13 | 11 | 20 | 23 | 5 | | 414 |
| | | % | 75.9 | 83.7 | 78.6 | 78.9 | 95.8 | 96.7 | 89.7 | 88.2 | 100.0 | 100.0 | 96.4 | 92.9 | 100.0 | 95.2 | 95.8 | 100.0 | | 88.8 |
| | TOTAL | N | 54 | 49 | 42 | 38 | 24 | 30 | 29 | 34 | 20 | 16 | 55 | 14 | 11 | 21 | 24 | 5 | | 466 |
| CHEMISTRY | YES | N | 14 | 10 | 7 | 10 | 8 | 13 | 6 | 2 | 9 | 3 | 3 | | 2 | 1 | | | | 88 |
| | | % | 22.6 | 16.9 | 15.2 | 18.2 | 36.4 | 25.5 | 20.0 | 8.7 | 31.0 | 15.8 | 4.8 | | 6.9 | 5.0 | | | | 15.6 |
| | NO | N | 48 | 49 | 39 | 45 | 14 | 38 | 24 | 21 | 20 | 16 | 59 | 21 | 27 | 19 | 22 | 13 | | 475 |
| | | % | 77.4 | 83.1 | 84.8 | 81.8 | 63.6 | 74.5 | 80.0 | 91.3 | 69.0 | 84.2 | 95.2 | 100.0 | 93.1 | 95.0 | 100.0 | 100.0 | | 84.4 |
| | TOTAL | N | 62 | 59 | 46 | 55 | 22 | 51 | 30 | 23 | 29 | 19 | 62 | 21 | 29 | 20 | 22 | 13 | | 563 |
| GEOSCIENCES | YES | N | 2 | 4 | 3 | 6 | 4 | 6 | 5 | 4 | 3 | 2 | 3 | 2 | 1 | | 1 | | | 46 |
| | | % | 11.8 | 21.1 | 16.7 | 20.0 | 28.6 | 31.6 | 27.8 | 25.0 | 27.3 | 20.0 | 16.7 | 15.4 | 8.3 | | 9.1 | | | 18.8 |
| | NO | N | 15 | 15 | 15 | 24 | 10 | 13 | 13 | 12 | 8 | 8 | 15 | 11 | 11 | 15 | 10 | 4 | | 199 |
| | | % | 88.2 | 78.9 | 83.3 | 80.0 | 71.4 | 68.4 | 72.2 | 75.0 | 72.7 | 80.0 | 83.3 | 84.6 | 91.7 | 100.0 | 90.9 | 100.0 | | 81.2 |
| | TOTAL | N | 17 | 19 | 18 | 30 | 14 | 19 | 18 | 16 | 11 | 10 | 18 | 13 | 12 | 15 | 11 | 4 | | 245 |
| ENGINEERING | YES | N | 2 | 7 | 4 | 6 | 2 | 2 | 5 | 5 | 3 | 1 | 2 | | | | | | | 39 |
| | | % | 7.4 | 33.3 | 18.2 | 16.7 | 7.4 | 4.4 | 13.9 | 15.2 | 12.0 | 4.3 | 4.3 | | | | | | | 9.3 |
| | NO | N | 25 | 14 | 18 | 30 | 25 | 43 | 31 | 28 | 22 | 22 | 45 | 14 | 12 | 19 | 25 | 9 | | 382 |
| | | % | 92.6 | 66.7 | 81.8 | 83.3 | 92.6 | 95.6 | 86.1 | 84.8 | 88.0 | 95.7 | 95.7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 90.7 |
| | TOTAL | N | 27 | 21 | 22 | 36 | 27 | 45 | 36 | 33 | 25 | 23 | 47 | 14 | 12 | 19 | 25 | 9 | | 421 |
| EMP TOTAL | YES | N | 41 | 36 | 26 | 35 | 18 | 25 | 25 | 18 | 16 | 8 | 18 | 8 | 4 | 2 | 1 | | | 283 |
| | | % | 21.8 | 21.6 | 18.1 | 18.5 | 16.5 | 15.1 | 16.7 | 14.2 | 15.0 | 10.0 | 7.4 | 9.0 | 4.3 | 1.9 | 2.0 | | | 13.5 |
| | NO | N | 147 | 131 | 118 | 154 | 91 | 141 | 125 | 109 | 91 | 72 | 224 | 81 | 89 | 102 | 103 | 40 | | 1818 |
| | | % | 78.2 | 78.4 | 81.9 | 81.5 | 83.5 | 84.9 | 83.3 | 85.8 | 85.0 | 90.0 | 92.6 | 91.0 | 95.7 | 98.1 | 97.2 | 100.0 | | 86.5 |
| | TOTAL | N | 188 | 167 | 144 | 189 | 109 | 166 | 150 | 127 | 107 | 80 | 242 | 89 | 93 | 104 | 106 | 40 | | 2101 |
| BIOSCIENCES | YES | N | 34 | 35 | 26 | 22 | 6 | 11 | 10 | 5 | 11 | 6 | 14 | 4 | 3 | | 1 | | | 188 |
| | | % | 47.2 | 38.5 | 40.6 | 36.7 | 18.2 | 21.6 | 22.2 | 11.4 | 32.4 | 28.6 | 17.9 | 14.8 | 6.1 | | 1.6 | | | 23.4 |
| | NO | N | 38 | 56 | 38 | 38 | 27 | 40 | 35 | 39 | 23 | 15 | 64 | 23 | 46 | 44 | 62 | 26 | 1 | 615 |
| | | % | 52.8 | 61.5 | 59.4 | 63.3 | 81.8 | 78.4 | 77.8 | 88.6 | 67.6 | 71.4 | 82.1 | 85.2 | 93.9 | 100.0 | 98.4 | 100.0 | 100.0 | 76.6 |
| | TOTAL | N | 72 | 91 | 64 | 60 | 33 | 51 | 45 | 44 | 34 | 21 | 78 | 27 | 49 | 44 | 63 | 26 | 1 | 803 |
| PSYCHOLOGY | YES | N | | 5 | 2 | 4 | | 2 | 1 | 1 | 2 | 2 | 2 | | | 1 | 2 | | | 24 |
| | | % | | 31.3 | 20.0 | 40.0 | | 16.7 | 10.0 | 12.5 | 25.0 | 28.6 | 25.0 | | | 16.7 | 15.4 | | | 16.1 |
| | NO | N | 4 | 11 | 8 | 6 | 5 | 10 | 9 | 7 | 6 | 5 | 6 | 5 | 4 | 5 | 11 | | | 125 |
| | | % | 100.0 | 68.8 | 80.0 | 60.0 | 100.0 | 83.3 | 90.0 | 87.5 | 75.0 | 71.4 | 75.0 | 100.0 | 100.0 | 83.3 | 100.0 | 84.6 | | 83.9 |
| | TOTAL | N | 4 | 16 | 10 | 10 | 5 | 12 | 10 | 8 | 8 | 7 | 8 | 5 | 4 | 6 | 23 | 13 | | 149 |
| SOC SCI & OTH | YES | N | | 1 | 5 | 8 | 4 | 4 | 2 | 7 | 5 | 4 | 3 | 2 | 1 | | | | | 46 |
| | | % | | 33.3 | 31.3 | 36.4 | 50.0 | 22.2 | 8.7 | 29.2 | 18.5 | 14.8 | 6.8 | 6.7 | 3.6 | | | | | 11.6 |
| | NO | N | | 2 | 11 | 14 | 4 | 14 | 21 | 17 | 22 | 23 | 41 | 28 | 27 | 32 | 70 | 26 | | 352 |
| | | % | | 66.7 | 68.8 | 63.6 | 50.0 | 77.8 | 91.3 | 70.8 | 81.5 | 85.2 | 93.2 | 93.3 | 96.4 | 100.0 | 100.0 | 100.0 | | 88.4 |
| | TOTAL | N | | 3 | 16 | 22 | 8 | 18 | 23 | 24 | 27 | 27 | 44 | 30 | 28 | 32 | 70 | 26 | | 398 |
| BIO/BEH TOTAL | YES | N | 34 | 41 | 33 | 34 | 10 | 17 | 13 | 13 | 18 | 12 | 19 | 6 | 4 | 1 | 1 | 2 | | 258 |
| | | % | 44.7 | 37.3 | 36.7 | 37.0 | 21.7 | 21.0 | 16.7 | 17.1 | 26.1 | 21.8 | 14.6 | 9.7 | 4.9 | 1.2 | .6 | 3.1 | | 14.1 |
| | NO | N | 42 | 69 | 57 | 58 | 36 | 64 | 65 | 63 | 51 | 43 | 111 | 56 | 77 | 81 | 155 | 63 | 1 | 1092 |
| | | % | 55.3 | 62.7 | 63.3 | 63.0 | 78.3 | 79.0 | 83.3 | 82.9 | 73.9 | 78.2 | 85.4 | 90.3 | 95.1 | 98.8 | 99.4 | 98.9 | 100.0 | 85.9 |
| | TOTAL | N | 76 | 110 | 90 | 92 | 46 | 81 | 78 | 76 | 69 | 55 | 130 | 62 | 81 | 82 | 156 | 65 | 1 | 1350 |
| GRAND TOTAL | YES | N | 75 | 77 | 59 | 69 | 28 | 42 | 38 | 31 | 34 | 20 | 37 | 14 | 8 | 3 | 4 | 2 | | 541 |
| | | % | 28.4 | 27.8 | 25.2 | 24.6 | 18.1 | 17.0 | 16.7 | 15.3 | 19.3 | 14.8 | 9.9 | 9.3 | 4.6 | 1.6 | 1.5 | 1.9 | | 15.7 |
| | NO | N | 189 | 200 | 175 | 212 | 127 | 205 | 190 | 172 | 142 | 115 | 335 | 137 | 166 | 183 | 258 | 103 | 1 | 2910 |
| | | % | 71.6 | 72.2 | 74.8 | 75.4 | 81.9 | 83.0 | 83.3 | 84.7 | 80.7 | 85.2 | 90.1 | 90.7 | 95.4 | 98.4 | 98.5 | 98.1 | 100.0 | 84.3 |
| | TOTAL | N | 264 | 277 | 234 | 281 | 155 | 247 | 228 | 203 | 176 | 135 | 372 | 151 | 174 | 186 | 262 | 105 | 1 | 3451 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

# Award of NIH or NSF Research Grants, by Cohort and Level of NSF Graduate Fellowships: Terminal Level*

| | | | COHORT OF FIRST AWARD | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLD OF APPLIC | GRT? | | 1952-53 | 1954-55 | 1956-57 | 1958-59 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 TOTAL |
| MATHEMATICS | YES | N | 4 | 4 | 1 | 1 | 1 | 2 | | | | | 4 | 1 | 2 | 3 | | | 23 |
| | | % | 20.0 | 57.1 | 33.3 | 20.0 | 25.0 | 33.3 | | | | | 12.9 | 12.5 | 18.2 | 23.1 | | | 16.7 |
| | NO | N | 16 | 3 | 2 | 4 | 3 | 4 | 5 | 5 | 2 | 2 | 27 | 7 | 9 | 10 | 8 | 8 | 115 |
| | | % | 80.0 | 42.9 | 66.7 | 80.0 | 75.0 | 66.7 | 100.0 | 100.0 | 100.0 | 100.0 | 87.1 | 87.5 | 81.8 | 76.9 | 100.0 | 100.0 | 83.3 |
| | TOTAL | N | 20 | 7 | 3 | 5 | 4 | 6 | 5 | 5 | 2 | 2 | 31 | 8 | 11 | 13 | 8 | 8 | 138 |
| PHYSICS | YES | N | 20 | 4 | 4 | 2 | 2 | 1 | 1 | 1 | | | | 1 | | 1 | | | 37 |
| | | % | 29.0 | 14.8 | 50.0 | 18.2 | 20.0 | 12.5 | 14.3 | 20.0 | | | | 12.5 | | 9.1 | | | 19.3 |
| | NO | N | 49 | 23 | 4 | 9 | 8 | 7 | 6 | 4 | 5 | 1 | 11 | 7 | 3 | 10 | 8 | | 155 |
| | | % | 71.0 | 85.2 | 50.0 | 81.8 | 80.0 | 87.5 | 85.7 | 80.0 | 100.0 | 100.0 | 100.0 | 87.5 | 100.0 | 90.9 | 100.0 | | 80.7 |
| | TOTAL | N | 69 | 27 | 8 | 11 | 10 | 8 | 7 | 5 | 5 | 1 | 11 | 8 | 3 | 11 | 8 | | 192 |
| CHEMISTRY | YES | N | 12 | 8 | 3 | 4 | 1 | 3 | 2 | 4 | 1 | 2 | 1 | | | | | | 41 |
| | | % | 21.8 | 23.5 | 12.5 | 22.2 | 14.3 | 16.7 | 28.6 | 57.1 | 14.3 | 66.7 | 8.3 | | | | | | 19.1 |
| | NO | N | 43 | 26 | 21 | 14 | 6 | 15 | 5 | 3 | 6 | 1 | 11 | 4 | 3 | 5 | 11 | | 174 |
| | | % | 78.2 | 76.5 | 87.5 | 77.8 | 85.7 | 83.3 | 71.4 | 42.9 | 85.7 | 33.3 | 91.7 | 100.0 | 100.0 | 100.0 | 100.0 | | 80.9 |
| | TOTAL | N | 55 | 34 | 24 | 18 | 7 | 18 | 7 | 7 | 7 | 3 | 12 | 4 | 3 | 5 | 11 | | 215 |
| GEOSCIENCES | YES | N | 3 | 3 | 2 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 | | 17 |
| | | % | 16.7 | 30.0 | 22.2 | 16.7 | | 14.3 | 16.7 | 16.7 | 50.0 | 16.7 | 25.0 | | | 12.5 | 50.0 | | 16.7 |
| | NO | N | 15 | 7 | 7 | 5 | 2 | 6 | 5 | 5 | 1 | 5 | 3 | 3 | 2 | 7 | 1 | | 74 |
| | | % | 83.3 | 70.0 | 77.8 | 83.3 | 100.0 | 85.7 | 83.3 | 83.3 | 50.0 | 83.3 | 75.0 | 100.0 | 100.0 | 87.5 | 50.0 | | 81.3 |
| | TOTAL | N | 18 | 10 | 9 | 6 | 2 | 7 | 6 | 6 | 2 | 6 | 4 | 3 | 2 | 8 | 2 | | 91 |
| ENGINEERING | YES | N | 3 | 1 | 2 | 1 | | 3 | | 2 | 2 | | | 3 | | 2 | | | 19 |
| | | % | 14.3 | 4.2 | 25.0 | 10.0 | | 21.4 | | 25.0 | 25.0 | | | 27.3 | | 11.8 | | | 11.2 |
| | NO | N | 18 | 23 | 6 | 9 | 7 | 11 | 10 | 6 | 6 | 3 | 12 | 8 | 9 | 15 | 5 | 3 | 151 |
| | | % | 85.7 | 95.8 | 75.0 | 90.0 | 100.0 | 78.6 | 100.0 | 75.0 | 75.0 | 100.0 | 100.0 | 72.7 | 100.0 | 88.2 | 100.0 | 100.0 | 88.8 |
| | TOTAL | N | 21 | 24 | 8 | 10 | 7 | 14 | 10 | 8 | 8 | 3 | 12 | 11 | 9 | 17 | 5 | 3 | 170 |
| EMP TOTAL | YES | N | 42 | 20 | 12 | 9 | 4 | 10 | 4 | 8 | 4 | 3 | 6 | 5 | 2 | 7 | 1 | | 137 |
| | | % | 23.0 | 19.6 | 23.1 | 18.0 | 13.3 | 18.9 | 11.4 | 25.8 | 16.7 | 20.0 | 8.6 | 14.7 | 7.1 | 13.0 | 2.9 | | 17.0 |
| | NO | N | 141 | 82 | 40 | 41 | 26 | 43 | 31 | 23 | 20 | 12 | 64 | 29 | 26 | 47 | 33 | 11 | 669 |
| | | % | 77.0 | 80.4 | 76.9 | 82.0 | 86.7 | 81.1 | 88.6 | 74.2 | 83.3 | 80.0 | 91.4 | 85.3 | 92.9 | 87.0 | 97.1 | 100.0 | 83.0 |
| | TOTAL | N | 183 | 102 | 52 | 50 | 30 | 53 | 35 | 31 | 24 | 15 | 70 | 34 | 28 | 54 | 34 | 11 | 806 |
| BIOSCIENCES | YES | N | 36 | 15 | 11 | 10 | 2 | 4 | 5 | 2 | 1 | 2 | 6 | 2 | 3 | 2 | | 1 | 102 |
| | | % | 41.9 | 34.1 | 37.9 | 45.5 | 66.7 | 36.4 | 41.7 | 40.0 | 16.7 | 33.3 | 50.0 | 40.0 | 33.3 | 8.0 | | 9.1 | 33.6 |
| | NO | N | 50 | 29 | 18 | 12 | 1 | 7 | 7 | 3 | 5 | 4 | 6 | 3 | 6 | 23 | 18 | 10 | 202 |
| | | % | 58.1 | 65.9 | 62.1 | 54.5 | 33.3 | 63.6 | 58.3 | 60.0 | 83.3 | 66.7 | 50.0 | 60.0 | 66.7 | 92.0 | 100.0 | 90.9 | 66.4 |
| | TOTAL | N | 86 | 44 | 29 | 22 | 3 | 11 | 12 | 5 | 6 | 6 | 12 | 5 | 9 | 25 | 18 | 11 | 304 |
| PSYCHOLOGY | YES | N | 3 | 4 | 1 | 2 | | | | 1 | | 1 | | 1 | | 1 | | | 14 |
| | | % | 75.0 | 36.4 | 20.0 | 50.0 | | | | 16.7 | | 50.0 | | 33.3 | | 14.3 | | | 21.5 |
| | NO | N | 1 | 7 | 4 | 2 | 1 | 3 | 3 | 5 | 2 | 1 | 7 | 2 | | 6 | 5 | 2 | 51 |
| | | % | 25.0 | 63.6 | 80.0 | 50.0 | 100.0 | 100.0 | 100.0 | 83.3 | 100.0 | 50.0 | 100.0 | 66.7 | | 85.7 | 100.0 | 100.0 | 78.5 |
| | TOTAL | N | 4 | 11 | 5 | 4 | 1 | 3 | 3 | 6 | 2 | 2 | 7 | 3 | | 7 | 5 | 2 | 65 |
| SOC SCI & OTH | YES | N | 2 | | 1 | 2 | 1 | 2 | 2 | 2 | | | 2 | 2 | | | | | 16 |
| | | % | 66.7 | | 14.3 | 66.7 | 33.3 | 40.0 | 33.3 | 33.3 | | | 10.0 | 16.7 | | | | | 13.4 |
| | NO | N | 1 | 1 | 6 | 1 | 2 | 3 | 4 | 4 | 6 | 3 | 18 | 10 | 14 | 15 | 11 | 4 | 103 |
| | | % | 33.3 | 100.0 | 85.7 | 33.3 | 66.7 | 60.0 | 66.7 | 66.7 | 100.0 | 100.0 | 90.0 | 83.3 | 100.0 | 100.0 | 100.0 | 100.0 | 86.6 |
| | TOTAL | N | 3 | 1 | 7 | 3 | 3 | 5 | 6 | 6 | 6 | 3 | 20 | 12 | 14 | 15 | 11 | 4 | 119 |
| BIO/BEH TOTAL | YES | N | 41 | 19 | 13 | 14 | 3 | 6 | 7 | 5 | 1 | 3 | 8 | 5 | 3 | 3 | | 1 | 132 |
| | | % | 44.1 | 33.9 | 31.7 | 48.3 | 42.9 | 31.6 | 33.3 | 29.4 | 7.1 | 27.3 | 20.5 | 25.0 | 13.0 | 6.4 | | 5.9 | 27.0 |
| | NO | N | 52 | 37 | 28 | 15 | 4 | 13 | 14 | 12 | 13 | 8 | 31 | 15 | 20 | 44 | 34 | 16 | 356 |
| | | % | 55.9 | 66.1 | 68.3 | 51.7 | 57.1 | 68.4 | 66.7 | 70.6 | 92.9 | 72.7 | 79.5 | 75.0 | 87.0 | 93.6 | 100.0 | 94.1 | 73.0 |
| | TOTAL | N | 93 | 56 | 41 | 29 | 7 | 19 | 21 | 17 | 14 | 11 | 39 | 20 | 23 | 47 | 34 | 17 | 488 |
| GRAND TOTAL | YES | N | 83 | 39 | 25 | 23 | 7 | 16 | 11 | 13 | 5 | 6 | 14 | 10 | 5 | 10 | 1 | 1 | 269 |
| | | % | 30.1 | 24.7 | 26.9 | 29.1 | 18.9 | 22.2 | 19.6 | 27.1 | 13.2 | 23.1 | 12.8 | 18.5 | 9.8 | 9.9 | 1.5 | 3.6 | 20.8 |
| | NO | N | 193 | 119 | 68 | 56 | 30 | 56 | 45 | 35 | 33 | 20 | 95 | 44 | 46 | 91 | 67 | 27 | 1025 |
| | | % | 69.9 | 75.3 | 73.1 | 70.9 | 81.1 | 77.8 | 80.4 | 72.9 | 86.8 | 76.9 | 87.2 | 81.5 | 90.2 | 90.1 | 98.5 | 96.4 | 79.2 |
| | TOTAL | N | 276 | 158 | 93 | 79 | 37 | 72 | 56 | 48 | 38 | 26 | 109 | 54 | 51 | 101 | 68 | 28 | 1294 |

* See footnote on page 6 for definition of level of fellowship. Terminal and Intermediate levels of fellowship were discontinued after 1971.

SOURCE: NRC, Commission on Human Resources

Appendix 6

NSF Graduate Fellows in Comprehensive Roster Survey Sample, 1973,
By Cohort, with Response Rates, by Field and Sex

| Field of Fellowship | MEN 52-61 | MEN 62-66 | MEN 67-71 | MEN Total 52-71 | WOMEN 52-61 | WOMEN 62-66 | WOMEN 67-71 | WOMEN Total 52-71 | SEXES COMBINED 52-61 | SEXES COMBINED 62-66 | SEXES COMBINED 67-71 | SEXES COMBINED Total 52-71 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mathematics** | | | | | | | | | | | | |
| CR Sample | 81 | 88 | 21 | 190 | 17 | 21 | 8 | 46 | 98 | 109 | 29 | 236 |
| Respondents | 61 | 70 | 17 | 148 | 11 | 16 | 8 | 35 | 72 | 86 | 25 | 183 |
| Response % | 75 | 80 | 81 | 78.0 | 65 | 76 | 100 | 76 | 74 | 79 | 86 | 77.5 |
| **Physics** | | | | | | | | | | | | |
| CR Sample | 160 | 82 | 16 | 258 | 11 | 5 | 1 | 17 | 171 | 87 | 17 | 275 |
| Respondents | 126 | 65 | 13 | 204 | 9 | 5 | 1 | 15 | 135 | 70 | 14 | 219 |
| Response % | 79 | 79 | 81 | 79.1 | 82 | 100 | 100 | 88 | 79 | 81 | 82 | 79.6 |
| **Chemistry** | | | | | | | | | | | | |
| CR Sample | 116 | 52 | 11 | 179 | 30 | 12 | 8 | 50 | 146 | 64 | 19 | 229 |
| Respondents | 103 | 43 | 9 | 155 | 18 | 10 | 8 | 36 | 121 | 53 | 17 | 191 |
| Response % | 89 | 83 | 32 | 86.6 | 60 | 83 | 100 | 72 | 83 | 83 | 90 | 83.4 |
| **Geo-Sciences** | | | | | | | | | | | | |
| CR Sample | 39 | 17 | 6 | 62 | 3 | 5 | - | 8 | 42 | 22 | 6 | 70 |
| Respondents | 38 | 15 | 5 | 58 | 2 | 5 | - | 7 | 40 | 20 | 5 | 65 |
| Response % | 97 | 88 | 83 | 93.5 | 67 | 100 | - | 88 | 95 | 91 | 83 | 92.9 |
| **Engineering** | | | | | | | | | | | | |
| CR Sample | 67 | 48 | 13 | 128 | - | 2 | - | 2 | 67 | 50 | 13 | 130 |
| Respondents | 61 | 40 | 12 | 113 | - | 1 | - | 1 | 61 | 41 | 12 | 114 |
| Response % | 91 | 83 | 92 | 88.3 | - | 50 | - | 50 | 91 | 82 | 92 | 87.7 |
| **Life Sciences** | | | | | | | | | | | | |
| CR Sample | 175 | 78 | 12 | 265 | 51 | 38 | 10 | 99 | 226 | 116 | 22 | 364 |
| Respondents | 147 | 65 | 11 | 223 | 39 | 27 | 9 | 75 | 186 | 92 | 20 | 298 |
| Response % | 84 | 83 | 92 | 84.2 | 77 | 71 | 90 | 76 | 82 | 79 | 91 | 81.9 |
| **Psychology** | | | | | | | | | | | | |
| CR Sample | 20 | 21 | 5 | 46 | 12 | 7 | 5 | 24 | 32 | 28 | 10 | 70 |
| Respondents | 19 | 17 | 4 | 40 | 8 | 6 | 4 | 18 | 27 | 23 | 8 | 58 |
| Response % | 95 | 81 | 80 | 87.0 | 75 | 86 | 80 | 75 | 84 | 82 | 80 | 82.9 |
| **Social Sciences** | | | | | | | | | | | | |
| CR Sample | 11 | 19 | 3 | 33 | 8 | 7 | 12 | 27 | 19 | 26 | 15 | 60 |
| Respondents | 9 | 14 | 2 | 25 | 7 | 7 | 12 | 26 | 16 | 21 | 14 | 51 |
| Response % | 82 | 74 | 67 | 75.8 | 88 | 100 | 100 | 96 | 84 | 81 | 93 | 85.0 |
| **TOTAL, ALL FIELDS** | | | | | | | | | | | | |
| C R Sample | 669 | 405 | 87 | 1161 | 132 | 97 | 44 | 273 | 801 | 502 | 131 | 1434 |
| Respondents | 564 | 329 | 73 | 966 | 94 | 77 | 42 | 213 | 658 | 406 | 115 | 1179 |
| Response % | 84.3 | 81.2 | 83.9 | 83.2 | 71.2 | 79.4 | 95.5 | 78.0 | 82.1 | 80.9 | 87.8 | 82.2 |

SOURCE: NRC, Commission on Human Resources

Appendix 7

NSF Graduate Fellows in Comprehensive Roster Survey Sample, 1975, by Cohort, with Response Rates, by Field and Sex

| Field of Fellowship | MEN 52-61 | MEN 62-66 | MEN 67-71 | MEN Total 52-71 | WOMEN 52-61 | WOMEN 62-66 | WOMEN 67-71 | WOMEN Total 52-71 | SEXES COMBINED 52-61 | SEXES COMBINED 62-66 | SEXES COMBINED 67-71 | SEXES COMBINED Total 52-71 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mathematics | | | | | | | | | | | | |
| CR Sample | 80 | 93 | 42 | 215 | 16 | 23 | 16 | 55 | 96 | 116 | 58 | 270 |
| Respondents | 59 | 68 | 30 | 157 | 13 | 16 | 13 | 42 | 72 | 84 | 43 | 199 |
| Response % | 74 | 73 | 71 | 73.0 | 81 | 70 | 81 | 76.4 | 75 | 72 | 74 | 73.7 |
| Physics | | | | | | | | | | | | |
| CR Sample | 157 | 87 | 39 | 283 | 11 | 6 | 3 | 20 | 168 | 93 | 42 | 303 |
| Respondents | 117 | 70 | 29 | 216 | 9 | 5 | 3 | 17 | 126 | 75 | 32 | 233 |
| Response % | 75 | 81 | 74 | 76.3 | 82 | 83 | 100 | 85.0 | 75 | 81 | 71 | 76.9 |
| Chemistry | | | | | | | | | | | | |
| CR Sample | 111 | 53 | 32 | 196 | 30 | 12 | 10 | 52 | 141 | 65 | 42 | 248 |
| Respondents | 94 | 42 | 23 | 159 | 19 | 9 | 10 | 38 | 113 | 51 | 33 | 197 |
| Response % | 85 | 79 | 72 | 81.1 | 63 | 75 | 100 | 73.1 | 80 | 79 | 79 | 79.4 |
| Geo-sciences | | | | | | | | | | | | |
| CR Sample | 38 | 18 | 11 | 67 | 3 | 5 | 1 | 9 | 41 | 23 | 12 | 76 |
| Respondents | 32 | 14 | 10 | 56 | 2 | 5 | 1 | 8 | 34 | 19 | 11 | 64 |
| Response % | 84 | 78 | 91 | 83.6 | 67 | 100 | 100 | 88.9 | 83 | 73 | 92 | 84.2 |
| Engineering | | | | | | | | | | | | |
| CR Sample | 67 | 51 | 28 | 146 | - | 2 | - | 2 | 67 | 53 | 28 | 148 |
| Respondents | 54 | 44 | 21 | 119 | - | 2 | - | 2 | 54 | 46 | 21 | 121 |
| Response % | 81 | 86 | 75 | 81.5 | - | 100 | - | 100.0 | 81 | 87 | 75 | 81.8 |
| Life Sciences | | | | | | | | | | | | |
| CR Sample | 174 | 80 | 37 | 291 | 48 | 41 | 23 | 112 | 222 | 121 | 60 | 403 |
| Respondents | 134 | 67 | 26 | 227 | 39 | 34 | 19 | 92 | 173 | 101 | 45 | 319 |
| Response % | 77 | 84 | 70 | 78.0 | 81 | 83 | 83 | 82.1 | 78 | 84 | 75 | 79.2 |
| Psychology | | | | | | | | | | | | |
| CR Sample | 19 | 21 | 7 | 47 | 11 | 7 | 10 | 28 | 30 | 28 | 17 | 75 |
| Respondents | 17 | 17 | 6 | 40 | 8 | 6 | 8 | 22 | 25 | 23 | 14 | 62 |
| Response % | 90 | 81 | 86 | 85.1 | 73 | 86 | 80 | 78.6 | 83 | 82 | 82 | 82.7 |
| Social Sciences | | | | | | | | | | | | |
| CR Sample | 11 | 21 | 11 | 43 | 7 | 9 | 18 | 34 | 18 | 30 | 29 | 77 |
| Respondents | 9 | 16 | 11 | 36 | 6 | 8 | 15 | 29 | 15 | 24 | 26 | 65 |
| Response % | 82 | 76 | 100 | 83.7 | 86 | 89 | 83 | 85.3 | 83 | 80 | 90 | 84.4 |
| TOTAL, ALL FIELDS | | | | | | | | | | | | |
| CR Sample | 657 | 424 | 207 | 1288 | 126 | 105 | 81 | 312 | 783 | 529 | 288 | 1600 |
| Respondents | 516 | 338 | 156 | 1010 | 96 | 85 | 69 | 250 | 612 | 423 | 225 | 1260 |
| Response % | 78.5 | 79.7 | 75.4 | 78.4 | 76.2 | 81.0 | 85.2 | 80.1 | 78.2 | 80.0 | 78.1 | 78.8 |

SOURCE: NRC, Commission on Human Resources

## Appendix 8

### Some Suggested Parameters for a More Comprehensive Study

This report is not intended as an evaluative report, but merely as a descriptive statistical report of the career outcomes, as shown by a set of available criteria, for a particular group of people supported by the NSF. It is deemed inappropriate for the NRC to undertake an evaluative study, because the NRC has itself been involved in the process of selection of the NSF Fellows. It is appropriate, however, to outline some of the possibilities of such a study, without prejudice to the freedom of any evaluative body to extend or modify the suggestions described below. These suggestions are offered only with a view to showing the potential scope of a study which could be effected, based on available data and on a data-collection procedure which has already been used effectively in previous follow-up studies of NSF Fellows and non-awarded applicants for NSF Fellowships.

It is assumed that an agency with capabilities for social science research, quite independent of the Commission on Human Resources, might conduct the evaluative study, if one is to be made. Because many of the data sources are within CHR, this organization would be expected to be called upon for statistical tabulations.

It is suggested than an evaluative study might well include in its scope, in addition to the NSF Graduate Fellows described in the present statistical report, candidates for NSF Graduate Fellowships who did not attain awards. In addition, there were candidates, both awarded and non-awarded, in additional programs, including the Cooperative Fellowship program of the 1950's and early 1960's. There has, more recently, been the NSF Traineeship program; its awardees could well be included in a more comprehensive study. In addition to these additional programs, there is the whole postdoctoral level, not included in the present study, which might be included in a more searching and evaluative study, for comparison with the results of the predoctoral candidates and awardees. In addition, it is entirely probably that consideration of the amount of support, in terms of years, or dollars, would relate significantly to the evaluation of outcomes.

## Technical Reports

For whatever value they might have in the design of a further study, there is available in the CHR a series of 26 Technical Reports on Fellowship Selection Techniques, issued by the Office of Scientific Personnel over the years 1953-1967.

## Limitations of CHR Data

The present statistical study used only sources already available in the data banks of the Commission on Human Resources. It is not possible, within this limited framework, to obtain all of the kinds of information that would be important in a more comprehensive and evaluative study. It is not possible, for example, to determine the reasons for individuals' decisions, nor their satisfaction with whatever outcomes may have been their lot. It is possible to secure only a limited view of the opinions of others regarding the evaluation of the individuals involved or their work products (i.e. the citation records give indirect evidence of the evaluations of others, but only in a limited way). It is not possible to study the impact of the several programs on the academic community, or the wider community outside of academe. All of these broader sources, and kinds of evidence should, it is felt, be included in a more comprehensive and evaluative study. This would obviously require questionnaire surveys, a procedure not used in the current study.

## Comparative and Normative Data

In addition to additional programs within the National Science Foundation, and additional types of evidence as indicated above, it is potentially possible to obtain data regarding persons supported in other programs, such as those of the National Institutes of Health and the Office of Education, for purposes of comparison. In addition, it is possible to set up as a frame of reference, for many of the kinds of evidence, a base-line founded on the normal experience of the general run of PhD's, whatever their sources and amounts of support, by field of doctorate, by sex, and by cohort of graduation. It is not suggested that these other groups would serve as "controls" in the sense that the term is used in laboratory science. It is not deemed possible in field research of the kind here involved, to set up such controls. Yet there are undoubtedly variations from one agency to another that may be important in attempting to evaluate the results of the work of any one agency. And the generality of PhD's forms a convenient framework, keeping in mind all the while that it refers only to those who have succeeded in attaining the doctorate; there are always others supported by any agency who do not attain PhD's, but whose career outcomes would be important to a comprehensive study.